

# SEQUENCE LISTING

<110> Gudas, Jean M.  
Haak-Frendscho, Mary  
Foord, Orit  
Liang, Meina L.  
Ahluwalia, Kiran  
Bhakta, Sunil

<120> ANTIBODIES DIRECTED TO MONOCYTE  
CHEMO-ATTRACTANT PROTEIN-1 (MCP-1) AND USES THEREOF

<130> ABGENIX.091A

<150> 60/404,802

<151> 2002-08-19

<160> 149

<170> FastSEQ for Windows Version 4.0

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<212> DNA

<213> Homosapien

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<400> 2

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| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Lys | Pro | Gly | Ala |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Val | Lys | Val | Ser | Cys | Lys | Val | Ser | Gly | Tyr | Thr | Leu | Thr | Glu | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Asn | Gly | Leu | Glu | Trp | Met |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gly | Phe | Asp | Pro | Glu | Asp | Gly | Glu | Thr | Ile | Tyr | Ala | Gln | Arg | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Gly | Arg | Val | Val | Met | Thr | Glu | Asp | Pro | Ser | Thr | Asp | Thr | Ala | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Thr | Asn | Glu | Phe | Trp | Ser | Gly | Tyr | Phe | Asp | Tyr | Trp | Gly | Gln | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser | Val | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     |     | 125 |     |     |
| Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser | Thr | Ala | Ala | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val | Thr | Val | Ser | Trp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe | Pro | Ala | Val | Leu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gln | Ser | Ser | Gly | Leu | Tyr | Ser | Leu | Ser | Ser | Val | Val | Thr | Val | Pro | Ser |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Asn | Phe | Gly | Thr | Gln | Thr | Tyr | Thr | Cys | Asn | Val | Asp | His | Lys | Pro |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Asn | Thr | Lys | Val | Asp | Lys | Thr | Val | Glu | Arg | Lys | Cys | Cys | Val | Glu |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Cys | Pro | Pro | Cys | Pro | Ala | Pro | Pro | Val | Ala | Gly | Pro | Ser | Val | Phe | Leu |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Arg | Thr | Pro | Glu |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | His | Glu | Asp | Pro | Glu | Val | Gln |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Phe | Asn | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His | Asn | Ala | Lys | Thr | Lys |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Pro | Arg | Glu | Glu | Gln | Phe | Asn | Ser | Thr | Phe | Arg | Val | Val | Ser | Val | Leu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Thr | Val | Val | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Tyr | Lys | Cys | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Val | Ser | Asn | Lys | Gly | Leu | Pro | Ala | Pro | Ile | Glu | Lys | Thr | Ile | Ser | Lys |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Thr | Lys | Gly | Gln | Pro | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu | Pro | Pro | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Arg | Glu | Glu | Met | Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys | Leu | Val | Lys |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Gly | Phe | Tyr | Pro | Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu | Ser | Asn | Gly | Gln |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Glu | Asn | Asn | Tyr | Lys | Thr | Thr | Pro | Pro | Met | Leu | Asp | Ser | Asp | Gly |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Ser | Phe | Phe | Leu | Tyr | Ser | Lys | Leu | Thr | Val | Asp | Lys | Ser | Arg | Trp | Gln |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Gln | Gly | Asn | Val | Phe | Ser | Cys | Ser | Val | Met | His | Glu | Ala | Leu | His | Asn |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser | Leu | Ser | Pro | Gly | Lys |     |     |     |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |

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 <212> DNA  
 <213> Homosapien

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 tggtagcagc agaaaccagg acagcctcct aaactgctca tttactgggc atctatccgg 180  
 gaatccgggg tccctgaccg attcagttcc agcgggtctg agacagattt cactctcacc 240  
 atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttttagtagt 300  
 ccgtggacgt tcggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtga taacgccctc 480  
 caatcgggta actcccagga gagtgtcaca gagcaggaca gcaaggacag cacctacagc 540  
 ctcagcagca ccttgacgct gagcaaagca gactacgaga aacacaaagt ctacgcctgc 600  
 gaagtcaccc atcagggcct gagctcgccc gtcacaaaga gttcaacag gggagagtgt 660

<210> 4  
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 <212> PRT  
 <213> Homosapien

<400> 4  
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 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
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 Ser Asn Asn Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ile Arg Glu Ser Gly Val  
 50 55 60  
 Pro Asp Arg Phe Ser Ser Ser Gly Ser Glu Thr Asp Phe Thr Leu Thr  
 65 70 75 80  
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
 85 90 95  
 Tyr Phe Ser Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 100 105 110  
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 115 120 125  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 130 135 140  
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu  
 145 150 155 160  
 Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp  
 165 170 175  
 Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr



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gaatccggggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggca gtttattact gtcaacaata ttatcgtagt 300
ccgtggacgt tccgccaagg gaccaaggtg gaaatcaaac gaactgtggc tgcaccatct 360
gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420
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<210> 8
<211> 159
<212> PRT
<213> Homosapien

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20           25           30
Ser Asn Asn Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Leu Gly Gln
35           40           45
Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val
50           55           60
Pro Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65           70           75           80
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
85           90           95
Tyr Tyr Arg Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
100          105          110
Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
115          120          125
Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn
130          135          140
Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
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<210> 9
<211> 556
<212> PRT
<213> Homosapien

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<400> 9
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Ala Gly Thr Cys Thr Gly Gly Gly Gly Cys Thr Gly Ala Gly Gly Thr
20           25           30
Gly Ala Ala Gly Ala Ala Gly Cys Cys Thr Gly Gly Gly Gly Cys Cys
35           40           45
Thr Cys Ala Gly Thr Gly Ala Ala Gly Gly Thr Cys Thr Cys Cys Thr
50           55           60
Gly Cys Ala Ala Gly Gly Thr Thr Thr Cys Cys Gly Gly Ala Thr Ala
65           70           75           80
Cys Ala Cys Cys Cys Thr Cys Ala Cys Thr Gly Ala Ala Thr Thr Ala

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|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Cys | Cys | Ala | Thr | Gly | Cys | Ala | Cys | Thr | Gly | Gly | Gly | Thr | Gly | Cys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Gly | Ala | Cys | Ala | Gly | Gly | Cys | Thr | Cys | Cys | Thr | Gly | Gly | Ala | Ala | Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Ala | Gly | Gly | Gly | Cys | Thr | Thr | Gly | Ala | Gly | Thr | Gly | Gly | Ala | Thr | Gly |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Gly | Ala | Gly | Gly | Thr | Thr | Thr | Gly | Ala | Thr | Cys | Cys | Thr | Gly |     |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     | 160 |     |
| Ala | Ala | Gly | Ala | Thr | Gly | Gly | Thr | Gly | Ala | Ala | Cys | Ala | Ala | Thr |     |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Cys | Thr | Ala | Cys | Gly | Cys | Ala | Cys | Ala | Gly | Ala | Ala | Gly | Thr | Thr | Cys |
|     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |
| Cys | Ala | Gly | Gly | Cys | Ala | Gly | Ala | Gly | Thr | Cys | Ala | Cys | Cys | Ala |     |
|     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |
| Thr | Gly | Ala | Cys | Cys | Gly | Ala | Gly | Gly | Ala | Cys | Ala | Cys | Ala | Thr | Cys |
|     | 210 |     |     |     | 215 |     |     |     |     |     | 220 |     |     |     |     |
| Thr | Ala | Cys | Ala | Gly | Ala | Cys | Ala | Cys | Ala | Gly | Cys | Cys | Thr | Ala | Cys |
| 225 |     |     |     |     | 230 |     |     |     | 235 |     |     |     |     | 240 |     |
| Ala | Thr | Gly | Gly | Ala | Gly | Cys | Thr | Gly | Ala | Gly | Cys | Ala | Gly | Cys | Cys |
|     |     |     | 245 |     |     |     |     | 250 |     |     |     |     |     | 255 |     |
| Thr | Gly | Ala | Gly | Ala | Thr | Cys | Thr | Gly | Ala | Gly | Gly | Ala | Cys | Ala | Cys |
|     |     | 260 |     |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Gly | Gly | Cys | Cys | Gly | Thr | Gly | Thr | Ala | Thr | Thr | Ala | Cys | Thr | Gly | Thr |
|     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |
| Gly | Cys | Ala | Ala | Cys | Ala | Ala | Cys | Gly | Ala | Thr | Thr | Thr | Thr | Thr | Thr |
|     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |
| Gly | Gly | Ala | Gly | Thr | Gly | Gly | Thr | Thr | Ala | Thr | Thr | Ala | Thr | Ala | Ala |
| 305 |     |     |     |     | 310 |     |     |     | 315 |     |     |     |     | 320 |     |
| Cys | Thr | Ala | Cys | Thr | Gly | Gly | Gly | Cys | Cys | Ala | Gly | Gly | Gly | Gly | Ala |
|     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |
| Ala | Cys | Cys | Cys | Thr | Gly | Gly | Thr | Cys | Ala | Cys | Cys | Gly | Thr | Cys | Thr |
|     |     | 340 |     |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Cys | Cys | Thr | Cys | Ala | Gly | Cys | Cys | Thr | Cys | Cys | Ala | Cys | Cys | Ala | Ala |
|     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |
| Gly | Gly | Gly | Cys | Cys | Cys | Ala | Thr | Cys | Gly | Gly | Thr | Cys | Thr | Thr | Cys |
|     | 370 |     |     |     | 375 |     |     |     |     |     | 380 |     |     |     |     |
| Cys | Cys | Cys | Cys | Thr | Gly | Gly | Cys | Gly | Cys | Cys | Cys | Thr | Gly | Cys | Thr |
| 385 |     |     |     |     | 390 |     |     |     | 395 |     |     |     |     | 400 |     |
| Cys | Cys | Ala | Gly | Gly | Ala | Gly | Cys | Ala | Cys | Cys | Thr | Cys | Cys | Gly | Ala |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |
| Gly | Ala | Gly | Cys | Ala | Cys | Ala | Gly | Cys | Gly | Gly | Cys | Cys | Cys | Thr | Gly |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Gly | Gly | Cys | Thr | Gly | Cys | Cys | Thr | Gly | Gly | Thr | Cys | Ala | Ala | Gly | Gly |
|     |     | 435 |     |     |     |     | 440 |     |     |     | 445 |     |     |     |     |
| Ala | Cys | Thr | Ala | Cys | Thr | Thr | Cys | Cys | Cys | Cys | Gly | Ala | Ala | Cys | Cys |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Gly | Gly | Thr | Gly | Ala | Cys | Gly | Gly | Thr | Gly | Thr | Cys | Gly | Thr | Gly | Gly |
| 465 |     |     |     |     | 470 |     |     |     | 475 |     |     |     |     | 480 |     |
| Ala | Ala | Cys | Thr | Cys | Ala | Gly | Gly | Cys | Gly | Cys | Thr | Cys | Thr | Gly | Ala |
|     |     |     | 485 |     |     |     |     | 490 |     |     |     |     | 495 |     |     |
| Cys | Cys | Ala | Gly | Cys | Gly | Gly | Cys | Gly | Thr | Gly | Cys | Ala | Cys | Ala | Cys |
|     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |     |
| Cys | Thr | Thr | Cys | Cys | Cys | Ala | Gly | Cys | Thr | Gly | Thr | Cys | Cys | Thr | Ala |
|     |     | 515 |     |     |     | 520 |     |     |     |     |     | 525 |     |     |     |

Cys Ala Gly Thr Cys Cys Thr Cys Ala Gly Gly Ala Cys Thr Cys Thr  
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 Ala Cys Thr Cys Cys Cys Thr Cys Ala Gly Cys Ala  
 545 550 555

<210> 10  
 <211> 185  
 <212> PRT  
 <213> Homosapien

<400> 10  
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 Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
 35 40 45  
 Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe  
 50 55 60  
 Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr  
 65 70 75 80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Thr Asn Asp Phe Trp Ser Gly Tyr Asn Tyr Trp Gly Gln Gly  
 100 105 110  
 Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe  
 115 120 125  
 Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu  
 130 135 140  
 Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp  
 145 150 155 160  
 Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu  
 165 170 175  
 Gln Ser Ser Gly Leu Tyr Ser Leu Ser  
 180 185

<210> 11  
 <211> 490  
 <212> DNA  
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 tggtagcaac agaaaccagg acagcctcct aaactgctca tttactgggc atctatccgg 180  
 gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcaacagcc tgcaggctga agatgtggca gtttattact gtcagcagta tttttatagt 300  
 ccgtggacgt tccggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtga taacgcctc 480  
 caatcgggta 490

<210> 12

<211> 163  
 <212> PRT  
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<400> 12

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| Asp | Ile | Val | Met | Thr | Gln | Ser | Pro | Asp | Ser | Leu | Ala | Val | Ser | Leu | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | Arg | Ala | Thr | Ile | Asn | Cys | Lys | Ser | Ser | Gln | Ser | Val | Leu | Tyr | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Asn | Asn | Lys | Asn | Tyr | Leu | Val | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Pro | Lys | Leu | Leu | Ile | Tyr | Trp | Ala | Ser | Ile | Arg | Glu | Ser | Gly | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Asp | Arg | Phe | Ser | Gly | Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Ile | Asn | Ser | Leu | Gln | Ala | Glu | Asp | Val | Ala | Val | Tyr | Tyr | Cys | Gln | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     | 95  |     |     |
| Tyr | Phe | Tyr | Ser | Pro | Trp | Thr | Phe | Gly | Gln | Gly | Thr | Lys | Val | Glu | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Arg | Thr | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Gln | Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Phe | Tyr | Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn | Ala | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gln | Ser | Gly |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 13  
 <211> 543  
 <212> DNA  
 <213> Homosapien

<400> 13

|             |             |             |            |             |             |     |
|-------------|-------------|-------------|------------|-------------|-------------|-----|
| cagggtccagc | tgggtacagtc | tgggggctgag | gtgaagaagc | ctgggggcctc | agtgaagggtc | 60  |
| tcctgcaagg  | tttccggaca  | caccctcact  | gaattatcca | tgcactgggt  | gcgacaggct  | 120 |
| cctggaaaag  | ggcttgagtg  | gatgggaggt  | tttgatcctg | aagatgatga  | aacaatctac  | 180 |
| gcacagaagt  | tccaggacag  | agtcaccatg  | accgaggaca | catctacaga  | cacagcctac  | 240 |
| atggagctga  | gcagcctaag  | atctgaggac  | acggccgtgt | attactgtgc  | aaccaacgat  | 300 |
| ttttggagtg  | gttattttga  | ctgctggggc  | caggggaacc | tggtcaccgt  | ctcctcagcc  | 360 |
| tccaccaagg  | gcccatcggt  | cttccccctg  | gcgccttgct | ccaggagcac  | ctccgagagc  | 420 |
| acagcggccc  | tgggctgcct  | ggtcaaggac  | tacttccccg | aaccggtgac  | ggtgtcgtgg  | 480 |
| aactcaggcg  | ctctgaccag  | cggcgtgcac  | accttcccag | ctgtcctaca  | gtcctcagga  | 540 |
| ctt         |             |             |            |             |             | 543 |

<210> 14  
 <211> 181  
 <212> PRT  
 <213> Homosapien

<400> 14

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Lys | Pro | Gly | Ala |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Val | Lys | Val | Ser | Cys | Lys | Val | Ser | Gly | His | Thr | Leu | Thr | Glu | Leu |



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     |     | 20  |     |     |     |     | 25  |     |     |     | 30  |     |     |     |     |
| Ser | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Met |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gly | Phe | Asp | Pro | Glu | Asp | Asp | Glu | Thr | Ile | Tyr | Ala | Gln | Lys | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Asp | Arg | Val | Thr | Met | Thr | Glu | Asp | Thr | Ser | Thr | Asp | Thr | Ala | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Thr | Asn | Asp | Phe | Trp | Ser | Gly | Tyr | Phe | Asp | Cys | Trp | Gly | Gln | Gly |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser | Val | Phe |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser | Thr | Ala | Ala | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val | Thr | Val | Ser | Trp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe | Pro | Ala | Val | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Gln | Ser | Ser | Gly | Leu |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 180 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 15  
 <211> 490  
 <212> DNA  
 <213> Homosapien

<400> 15  
 gacatcgtgc tgaccagtc tccagactcc ctggctgtgt gtctgggcga gagggccacc 60  
 atcaactgca agtccagcca gagtgtttta tatagtccca acaataagaa cttcttagtt 120  
 tggtagaccgc agagaccagg acagcctcct aagctgctca tttactgggc atctaccgg 180  
 gaatccggggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttatagtagt 300  
 ccgtggacgt tccggccaagg gaccaaggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttggtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtgga taacgcctc 480  
 caatcgggta 490

<210> 16  
 <211> 163  
 <212> PRT  
 <213> Homosapien

<400> 16  
 Asp Ile Val Leu Thr Gln Ser Pro Asp Ser Leu Ala Val Cys Leu Gly  
 1 5 10 15  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
 20 25 30  
 Pro Asn Asn Lys Asn Phe Leu Val Trp Tyr Gln Gln Arg Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
 50 55 60  
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 65 70 75 80

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ser | Ser | Leu | Gln | Ala | Glu | Asp | Val | Ala | Val | Tyr | Tyr | Cys | Gln | Gln |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Tyr | Tyr | Ser | Ser | Pro | Trp | Thr | Phe | Gly | Gln | Gly | Thr | Lys | Val | Glu | Ile |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Arg | Thr | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Gln | Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Phe | Tyr | Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn | Ala | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gln | Ser | Gly |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 17  
 <211> 1335  
 <212> DNA  
 <213> Homosapien

<400> 17

|             |            |            |            |             |            |      |
|-------------|------------|------------|------------|-------------|------------|------|
| caggtccagc  | tggtacagtc | tggggctgag | gtgaagaagc | ctggggcctc  | agtgaaggtc | 60   |
| tccctgcaagg | tttccggata | caccctcact | gaattatcca | tgcactgggt  | gcgacaggct | 120  |
| cctggaaaag  | ggcttgagtg | gatgggaggt | tttgatcctg | aagatgggtga | aacaatctac | 180  |
| gcacagaagt  | tccagggcag | agtcaccatg | accgaggaca | catctacaga  | cacagtctac | 240  |
| atggagctga  | gcagcctgag | atctgaggac | acggccatgt | attactgtgc  | aacacgggag | 300  |
| ttttggactg  | gttattttga | ccactggggc | caggggaacc | tggtcaccgt  | ctcctcagcc | 360  |
| tccaccaagg  | gcccacgggt | cttccccctg | gcgccttgc  | ccaggagcac  | ctccgagagc | 420  |
| acagcggccc  | tgggctgcct | ggtcaaggac | tacttccccg | aaccgggtgac | ggtgtcgtgg | 480  |
| aactcaggcg  | ctctgaccag | cggcgtgcac | accttcccag | ctgtcctaca  | gtcctcagga | 540  |
| ctctactccc  | tcagcagcgt | ggtgaccgtg | ccctccagca | acttcggcac  | ccagacctac | 600  |
| acctgcaacg  | tagatcacia | gcccagcaac | accaagggtg | acaagacagt  | tgagcgcaaa | 660  |
| tggtgtgtcg  | agtgccacc  | gtgccagca  | ccacctgtgg | caggaccgtc  | agtcttctc  | 720  |
| ttcccccaa   | aacccaagga | caccctcatg | atctcccga  | cccctgaggt  | cacgtgcgtg | 780  |
| gtggtggacg  | tgagccacga | agaccccag  | gtccagttca | actggtacgt  | ggacggcgtg | 840  |
| gaggtgcata  | atgccaagac | aaagccacgg | gaggagcagt | tcaacagcac  | gttccgtgtg | 900  |
| gtcagcgtcc  | tcaccgttgt | gcaccaggac | tggctgaacg | gcaaggagta  | caagtgcaag | 960  |
| gtctccaaca  | aaggcctccc | agccccatc  | gagaaaacca | tctccaaaac  | caaagggcag | 1020 |
| ccccgagaac  | cacaggtgta | caccctgccc | ccatcccggg | aggagatgac  | caagaaccag | 1080 |
| gtcagcctga  | cctgcctgg  | caaaggcttc | taccccagcg | acatcgccgt  | ggagtgggag | 1140 |
| agcaatgggc  | agccggagaa | caactacaag | accacacctc | ccatgctgga  | ctccgacggc | 1200 |
| tccttcttcc  | tctacagcaa | gctcaccgtg | gacaagagca | ggtggcagca  | ggggaacgtc | 1260 |
| ttctcatgct  | ccgtgatgca | tgaggctctg | cacaaccact | acacgcagaa  | gagcctctcc | 1320 |
| ctgtctccgg  | gtaaa      |            |            |             |            | 1335 |

<210> 18  
 <211> 445  
 <212> PRT  
 <213> Homosapien

<400> 18

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Lys | Pro | Gly | Ala |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Ser | Val | Lys | Val | Ser | Cys | Lys | Val | Ser | Gly | Tyr | Thr | Leu | Thr | Glu | Leu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     | 30  |     |     |     |
| Ser | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Met |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |     |
| Gly | Gly | Phe | Asp | Pro | Glu | Asp | Gly | Glu | Thr | Ile | Tyr | Ala | Gln | Lys | Phe |
| 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |
| Gln | Gly | Arg | Val | Thr | Met | Thr | Glu | Asp | Thr | Ser | Thr | Asp | Thr | Val | Tyr |
| 65  | 70  |     |     |     |     | 75  |     |     |     |     | 80  |     |     |     |     |
| Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Met | Tyr | Tyr | Cys |
| 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |     |     |     |
| Ala | Thr | Arg | Glu | Phe | Trp | Thr | Gly | Tyr | Phe | Asp | His | Trp | Gly | Gln | Gly |
| 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |     |     |
| Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser | Val | Phe |
| 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |     |
| Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser | Thr | Ala | Ala | Leu |
| 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val | Thr | Val | Ser | Trp |
| 145 | 150 |     |     |     |     | 155 |     |     |     |     | 160 |     |     |     |     |
| Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe | Pro | Ala | Val | Leu |
| 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |     |     |     |
| Gln | Ser | Ser | Gly | Leu | Tyr | Ser | Leu | Ser | Ser | Val | Val | Thr | Val | Pro | Ser |
| 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |     |     |     |
| Ser | Asn | Phe | Gly | Thr | Gln | Thr | Tyr | Thr | Cys | Asn | Val | Asp | His | Lys | Pro |
| 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |     |     |
| Ser | Asn | Thr | Lys | Val | Asp | Lys | Thr | Val | Glu | Arg | Lys | Cys | Cys | Val | Glu |
| 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |     |
| Cys | Pro | Pro | Cys | Pro | Ala | Pro | Pro | Val | Ala | Gly | Pro | Ser | Val | Phe | Leu |
| 225 | 230 |     |     |     |     | 235 |     |     |     |     | 240 |     |     |     |     |
| Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Arg | Thr | Pro | Glu |
| 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |     |     |     |     |
| Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | His | Glu | Asp | Pro | Glu | Val | Gln |
| 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |     |     |     |
| Phe | Asn | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His | Asn | Ala | Lys | Thr | Lys |
| 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |     |     |
| Pro | Arg | Glu | Glu | Gln | Phe | Asn | Ser | Thr | Phe | Arg | Val | Val | Ser | Val | Leu |
| 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |     |
| Thr | Val | Val | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Tyr | Lys | Cys | Lys |
| 305 | 310 |     |     |     |     | 315 |     |     |     |     | 320 |     |     |     |     |
| Val | Ser | Asn | Lys | Gly | Leu | Pro | Ala | Pro | Ile | Glu | Lys | Thr | Ile | Ser | Lys |
| 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |     |     |     |     |
| Thr | Lys | Gly | Gln | Pro | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu | Pro | Pro | Ser |
| 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |     |     |     |
| Arg | Glu | Glu | Met | Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys | Leu | Val | Lys |
| 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |     |     |
| Gly | Phe | Tyr | Pro | Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu | Ser | Asn | Gly | Gln |
| 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |     |
| Pro | Glu | Asn | Asn | Tyr | Lys | Thr | Thr | Pro | Pro | Met | Leu | Asp | Ser | Asp | Gly |
| 385 | 390 |     |     |     |     | 395 |     |     |     |     | 400 |     |     |     |     |
| Ser | Phe | Phe | Leu | Tyr | Ser | Lys | Leu | Thr | Val | Asp | Lys | Ser | Arg | Trp | Gln |
| 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |     |     |     |     |
| Gln | Gly | Asn | Val | Phe | Ser | Cys | Ser | Val | Met | His | Glu | Ala | Leu | His | Asn |
| 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |     |     |     |
| His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser | Leu | Ser | Pro | Gly | Lys |     |     |     |
| 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |     |     |

<210> 19  
 <211> 660

<212> DNA  
<213> Homosapien

<400> 19  
gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60  
atcaactgca agtccagcca gagtgtttta tacagctcca acaataagaa ctacttagtt 120  
tggtatcagc agaaaccagg acagcctcct aaactgctca tttactgggc atctatccgg 180  
gaatccgggg tcccggaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttatagtact 300  
ccgctcactt tccgaggagg gaccaaggtg gagatcaaac gaactgtggc tgcaccatct 360  
gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgccctc 480  
caatcgggta actcccagga gagtgtcaca gagcaggaca gcaaggacag cacctacagc 540  
ctcagcagca cctgacgct gagcaaagca gactacgaga aacacaaagt ctacgcctgc 600  
gaagtcaccc atcagggcct gagctcgccc gtcacaaaga gcttcaacag gggagagtgt 660

<210> 20  
<211> 220  
<212> PRT  
<213> Homosapien

<400> 20  
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
1 5 10 15  
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
20 25 30  
Ser Asn Asn Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45  
Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ile Arg Glu Ser Gly Val  
50 55 60  
Pro Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80  
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
85 90 95  
Tyr Tyr Ser Thr Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile  
100 105 110  
Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
115 120 125  
Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
130 135 140  
Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu  
145 150 155 160  
Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp  
165 170 175  
Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr  
180 185 190  
Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser  
195 200 205  
Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys  
210 215 220

<210> 21  
<211> 543

<212> DNA  
 <213> Homosapien

<400> 21  
 caggtccagc tggtagagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60  
 tcctgcaagg tttccggata cacttttact gaattatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagt gatgggaggt tttgatcctg aagatgggtg aacaagctac 180  
 gcacagaagt tccggggcag agtcaccatg accgaggaca catctacaga cacagcccac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aaccaacgat 300  
 ttttgagagt gttattttga ctattggggc caggggaacc tggtcaccgt ctctcagcc 360  
 tccaccaagg gcccatcggt cttccccctg gcgcctgtct ccaggagcac ctccgagagc 420  
 acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
 aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 540  
 ctt 543

<210> 22  
 <211> 181  
 <212> PRT  
 <213> Homosapien

<400> 22  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
 1 5 10 15  
 Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Phe Thr Glu Leu  
 20 25 30  
 Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
 35 40 45  
 Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ser Tyr Ala Gln Lys Phe  
 50 55 60  
 Arg Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala His  
 65 70 75 80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Thr Asn Asp Phe Trp Ser Gly Tyr Phe Asp Tyr Trp Gly Gln Gly  
 100 105 110  
 Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe  
 115 120 125  
 Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu  
 130 135 140  
 Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp  
 145 150 155 160  
 Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu  
 165 170 175  
 Gln Ser Ser Gly Leu  
 180

<210> 23  
 <211> 460  
 <212> DNA  
 <213> Homosapien

<400> 23  
 gacatccaga tgaccagtc tccatcttcc gtgtctgcat ctgtaggaga cagagtcacc 60  
 atcacttgtc gggcgagtca gggattgac atctacttag cctggatatca gcagaaacca 120

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gggaaagccc ctaagctcct gatcaatgct gcatccagtt tgcaaaacgg ggtcccctca 180
aggttcggcg gcagtggatc tgggacagat ttcactctca ccatcagcgg cctgcagcct 240
gaagattttg caacttacta ttgtcaactg acttactttt tcccgtggac gttcggccaa 300
gggaccaagg tggaaatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcga 360
tctgatgagc agttgaaatc tggaaactgcc tctgttgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaagggtg gataacgccc 460

```

<210> 24

<211> 153

<212> PRT

<213> Homosapien

<400> 24

```

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
1           5           10           15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Asp Ile Tyr
20          25          30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35          40          45
Asn Ala Ala Ser Ser Leu Gln Asn Gly Val Pro Ser Arg Phe Gly Gly
50          55          60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Gly Leu Gln Pro
65          70          75          80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Leu Thr Tyr Phe Phe Pro Trp
85          90          95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100         105         110
Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115         120         125
Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130         135         140
Lys Val Gln Trp Lys Val Asp Asn Ala
145         150

```

<210> 25

<211> 543

<212> DNA

<213> Homosapien

<400> 25

```

caggtccagc tggtagagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacgaatt 120
cctggaaaag ggcttgagtg gatgggaggt tttgaccctg aagatgggtg aacaatctac 180
gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacaaacgat 300
ttttggagtg gctattgggg ccaactggggc caggggaacc tggtcaccgt ctccctcagcc 360
tccaccaagg gcccatcggt cttccccctg ggcacctgct ccaggagcac ctccgagagc 420
acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480
aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 540
ctt 543

```

<210> 26

<211> 181

<212> PRT

<213> Homosapien

<400> 26

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Lys | Pro | Gly | Ala |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Ser | Val | Lys | Val | Ser | Cys | Lys | Val | Ser | Gly | Tyr | Thr | Leu | Thr | Glu | Leu |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Ser | Met | His | Trp | Val | Arg | Arg | Ile | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Met |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |
| Gly | Gly | Phe | Asp | Pro | Glu | Asp | Gly | Glu | Thr | Ile | Tyr | Ala | Gln | Lys | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |
| Gln | Gly | Arg | Val | Thr | Met | Thr | Glu | Asp | Thr | Ser | Thr | Asp | Thr | Ala | Tyr |
| 65  |     |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |
| Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| Ala | Thr | Asn | Asp | Phe | Trp | Ser | Gly | Tyr | Trp | Gly | His | Trp | Gly | Gln | Gly |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |
| Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser | Val | Phe |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser | Thr | Ala | Ala | Leu |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |
| Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val | Thr | Val | Ser | Trp |
| 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     | 160 |
| Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe | Pro | Ala | Val | Leu |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |     |
| Gln | Ser | Ser | Gly | Leu |     |     |     |     |     |     |     |     |     |     |     |
|     |     |     | 180 |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 27

<211> 459

<212> DNA

<213> Homosapien

<400> 27

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| gacatcgtga | tgacccagtc | tccagactcc | ctggctgtgt | ctctgggcca | gagggccacc | 60  |
| atcaactgca | agtcagcca  | gagtgtttta | tacagctcca | acaataagaa | ctacctagct | 120 |
| tggtaccaag | ctgctcattt | actggacata | tatccgggaa | tccgggggcc | ctgaccgatt | 180 |
| cagtggcagc | gggtctggga | cagatttcac | tctcaccatc | agcagcctgc | aggctgaaga | 240 |
| tgtggcagtt | tattactgtc | aggaacatta | tagtattccg | tggacgttcg | gccaagggac | 300 |
| caaggtggaa | atcaaacgaa | ctgtggctgc | accatctgtc | ttcatcttcc | cgccatctga | 360 |
| tgagcagttg | aactgcctct | gttgtgtgcc | tgctgaataa | cttctatccc | agagaggcca | 420 |
| aagtacagtg | gaaggtggat | aacgcctccc | aatcgggta  |            |            | 459 |

<210> 28

<211> 149

<212> PRT

<213> Homosapien

<400> 28

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ile | Val | Met | Thr | Gln | Ser | Pro | Asp | Ser | Leu | Ala | Val | Ser | Leu | Gly |
| 1   |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | Arg | Ala | Thr | Ile | Asn | Cys | Lys | Ser | Ser | Gln | Ser | Val | Leu | Tyr | Ser |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Ser | Asn | Asn | Lys | Asn | Tyr | Leu | Ala | Trp | Tyr | Leu | Leu | Ile | Tyr | Trp | Thr |





Pro Leu Ala Pro Cys Ser Arg Asn Thr Ser Glu Ser Thr Ala Ala Leu  
130 135 140  
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp  
145 150 155 160  
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala  
165 170

<210> 31  
<211> 490  
<212> DNA  
<213> Homosapien

<400> 31  
gacatcgtga tgacccagtc tccagactcc ctggctgcgt ctctgggcga gagggccacc 60  
atcaactgca agtccagtca gagtgtttta tacagggtcca acaataagaa ttatttagtt 120  
tggtaccagc aaaaaccagg acagcctcct aagctgctca ttactgggc atctatccgg 180  
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
atcagcagcc tgcaggctga agatgtggca gtttatttct gtcagcaata ttatagttct 300  
ccgtggacgt ttggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttggtgtgc 420  
ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgcctc 480  
caatcgggta 490

<210> 32  
<211> 163  
<212> PRT  
<213> Homosapien

<400> 32  
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Ala Ser Leu Gly  
1 5 10 15  
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Arg  
20 25 30  
Ser Asn Asn Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45  
Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Ile Arg Glu Ser Gly Val  
50 55 60  
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80  
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Phe Cys Gln Gln  
85 90 95  
Tyr Tyr Ser Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
100 105 110  
Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
115 120 125  
Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
130 135 140  
Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu  
145 150 155 160  
Gln Ser Gly

<210> 33

<211> 545  
 <212> DNA  
 <213> Homosapien

<400> 33  
 caggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60  
 tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtga aacaatctac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacctggtat 300  
 agtgggatct acttagcttt tgatatctgg ggccaaggga caatgggtcac cgtctcttca 360  
 gcctccacca agggcccatc ggtcttcccc ctggcgccct gctccaggag cacctccgag 420  
 agcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacgggtgtcg 480  
 tggaactcag gcgctctgac cagcggcgtg cacaccttcc cagctgtcct acagtcctca 540  
 ggatt 545

<210> 34  
 <211> 181  
 <212> PRT  
 <213> Homosapien

<400> 34  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
 1 5 10 15  
 Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu  
 20 25 30  
 Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
 35 40 45  
 Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe  
 50 55 60  
 Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr  
 65 70 75 80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Thr Trp Tyr Ser Gly Ile Tyr Leu Ala Phe Asp Ile Trp Gly Gln  
 100 105 110  
 Gly Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125  
 Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
 130 135 140  
 Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160  
 Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175  
 Leu Gln Ser Ser Gly  
 180

<210> 35  
 <211> 472  
 <212> DNA  
 <213> Homosapien

<400> 35  
 gaaattgtgc tgactcagtc tccagacttt cagtctgtga ctccaaagga gaaagtcacc 60

```

atcacctgcc gggccagtca gagcattggt agtagcttac actggtacca gcagaaacca 120
gatcagtctc caaagctcct catcaagtat gcttcccagt cttcttcagg ggtcccctcg 180
aggttcagtg gcagtggatc tgggacagat ttcaccctca ccatcaatag cctggaagct 240
gaagatgctg caacgtatta ctgtcatcag agtagtagtt tacctcacac tttcggcgga 300
gggaccaagg tggagatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcga 360
tctgatgagc agttgaaatc tggaaactgcc tctgttgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaagggtg gataacgccc tccaatcggg ta 472

```

```

<210> 36
<211> 157
<212> PRT
<213> Homosapien

```

```

<400> 36
Glu Ile Val Leu Thr Gln Ser Pro Asp Phe Gln Ser Val Thr Pro Lys
 1           5           10           15
Glu Lys Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Ser Ser
 20           25           30
Leu His Trp Tyr Gln Gln Lys Pro Asp Gln Ser Pro Lys Leu Leu Ile
 35           40           45
Lys Tyr Ala Ser Gln Ser Phe Ser Gly Val Pro Ser Arg Phe Ser Gly
 50           55           60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Asn Ser Leu Glu Ala
 65           70           75           80
Glu Asp Ala Ala Thr Tyr Tyr Cys His Gln Ser Ser Ser Leu Pro His
 85           90           95
Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
100          105          110
Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115          120          125
Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130          135          140
Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly
145          150          155

```

```

<210> 37
<211> 1335
<212> DNA
<213> Homosapien

```

```

<400> 37
cagggtccagt tgggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcttgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatggtga aacaatctac 180
gcacagaagt tccagggcag agtcagtatg accgaggaca catccacaga cacagcctac 240
atggagctga gcagcctgag atctgaggac acggcctgtg atttctgtgc aaccaacgaa 300
ttttggagtg gttatatttga ctactggggc cagggaaacc tggtcaccgt ctctcagcc 360
tccaccaagg gcccatcggg cttccccctg ggcctctgct ccaggagcac ctccgagagc 420
acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480
aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 540
ctctactccc tcagcagcgt ggtgaccgtg cctccagca acttcggcac ccagacctac 600
acctgcaacg tagatcaciaa gccagcaaac accaagggtg acaagacagt tgagcgcaaa 660
tggtgtgtcg agtgcaccac gtgcccagca ccacctgtgg caggaccgtc agtcttctc 720
ttccccccaa aaccaagga caccctcatg atctcccga cccctgaggt cacgtgcgtg 780

```

```

gtggtggacg tgagccacga agacccccgag gtccagttca actggtacgt ggacggcgtg 840
gaggtgcata atgccaagac aaagccacgg gaggagcagt tcaacagcac gttccgtgtg 900
gtcagcgtcc tcaccgttgt gcaccaggac tggctgaacg gcaaggagta caagtgcaag 960
gtctccaaca aaggcctccc agcccccatc gagaaaacca tctccaaaac caaagggcag 1020
ccccgagaac cacaggtgta caccctgccc ccattcccggg aggagatgac caagaaccag 1080
gtcagcctga cctgcctggg caaaggcttc taccccagcg acatcgccgt ggagtgggag 1140
agcaatgggc agccggagaa caactacaag accacacctc ccatgctgga ctccgacggc 1200
tccttcttcc tctacagcaa gctcaccgtg gacaagagca ggtggcagca ggggaacgtc 1260
ttctcatgct ccgtgatgca tgaggctctg cacaaccact acacgcagaa gagcctctcc 1320
ctgtctccgg gtaaa 1335

```

```

<210> 38
<211> 445
<212> PRT
<213> Homosapien

```

```

<400> 38
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1          5          10          15
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
20          25          30
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35          40          45
Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
50          55          60
Gln Gly Arg Val Ser Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
65          70          75          80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys
85          90          95
Ala Thr Asn Glu Phe Trp Ser Gly Tyr Phe Asp Tyr Trp Gly Gln Gly
100          105          110
Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
115          120          125
Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
130          135          140
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
145          150          155          160
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
165          170          175
Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
180          185          190
Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp His Lys Pro
195          200          205
Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys Cys Val Glu
210          215          220
Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu
225          230          235          240
Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu
245          250          255
Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
260          265          270
Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
275          280          285
Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val Leu
290          295          300

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Val | Val | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Tyr | Lys | Cys | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Val | Ser | Asn | Lys | Gly | Leu | Pro | Ala | Pro | Ile | Glu | Lys | Thr | Ile | Ser | Lys |
|     |     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |
| Thr | Lys | Gly | Gln | Pro | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu | Pro | Pro | Ser |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Arg | Glu | Glu | Met | Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys | Leu | Val | Lys |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Gly | Phe | Tyr | Pro | Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu | Ser | Asn | Gly | Gln |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Pro | Glu | Asn | Asn | Tyr | Lys | Thr | Thr | Pro | Pro | Met | Leu | Asp | Ser | Asp | Gly |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Ser | Phe | Phe | Leu | Tyr | Ser | Lys | Leu | Thr | Val | Asp | Lys | Ser | Arg | Trp | Gln |
|     |     |     | 405 |     |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Gln | Gly | Asn | Val | Phe | Ser | Cys | Ser | Val | Met | His | Glu | Ala | Leu | His | Asn |
|     |     | 420 |     |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser | Leu | Ser | Pro | Gly | Lys |     |     |     |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |

<210> 39  
 <211> 660  
 <212> DNA  
 <213> Homosapien

<400> 39  
 gacatcgtga tgaccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60  
 atcaactgca agtccagcca gagggtttta tacagctcca acaataagaa ctatttagtt 120  
 tggtagcagc agagaccagg acagcctcct aagctgctca tttagtggc atctaccgg 180  
 gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata tttttattct 300  
 ccgtggacgt tcggccaagg gaccaaggta gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtga taacgccttc 480  
 caatcgggta actcccagga gagggtcaca gaggaggaca gcaaggacag cacctacagc 540  
 ctacgagcga ccctgacgct gagcaaagca gactacgaga aacacaaagt ctacgcctgc 600  
 gaagtcaccc atcagggcct gagctcgccc gtcacaaaga gcttcaacag gggagagtgt 660

<210> 40  
 <211> 220  
 <212> PRT  
 <213> Homosapien

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ile | Val | Met | Thr | Gln | Ser | Pro | Asp | Ser | Leu | Ala | Val | Ser | Leu | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Glu | Arg | Ala | Thr | Ile | Asn | Cys | Lys | Ser | Ser | Gln | Ser | Val | Leu | Tyr | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Asn | Asn | Lys | Asn | Tyr | Leu | Val | Trp | Tyr | Gln | Gln | Arg | Pro | Gly | Gln |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Pro | Pro | Lys | Leu | Leu | Ile | Tyr | Trp | Ala | Ser | Thr | Arg | Glu | Ser | Gly | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Asp | Arg | Phe | Ser | Gly | Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ser | Ser | Leu | Gln | Ala | Glu | Asp | Val | Ala | Val | Tyr | Tyr | Cys | Gln | Gln |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Tyr | Phe | Tyr | Ser | Pro | Trp | Thr | Phe | Gly | Gln | Gly | Thr | Lys | Val | Glu | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Arg | Thr | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp |
|     |     |     | 115 |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Gln | Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn |
|     |     |     | 130 |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Phe | Tyr | Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn | Ala | Leu |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Gln | Ser | Gly | Asn | Ser | Gln | Glu | Ser | Val | Thr | Glu | Gln | Asp | Ser | Lys | Asp |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     | 175 |     |
| Ser | Thr | Tyr | Ser | Leu | Ser | Ser | Thr | Leu | Thr | Leu | Ser | Lys | Ala | Asp | Tyr |
|     |     |     | 180 |     |     |     | 185 |     |     |     |     |     | 190 |     |     |
| Glu | Lys | His | Lys | Val | Tyr | Ala | Cys | Glu | Val | Thr | His | Gln | Gly | Leu | Ser |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ser | Pro | Val | Thr | Lys | Ser | Phe | Asn | Arg | Gly | Glu | Cys |     |     |     |     |
|     |     | 210 |     |     |     |     | 215 |     |     |     | 220 |     |     |     |     |

<210> 41  
 <211> 556  
 <212> DNA  
 <213> Homosapien

<400> 41  
 caggtccagc tggtagcagc tggggctgag gtgaagaagc ctggggcctc agtgaaggct 60  
 tcctgcaagg tttccggaca cattttcact gaattatcca tacactgggt gcgacaggct 120  
 cctggaaaag ggctcgagtg gatgggaggt tttgatcctg aagatgggtga aacaatctac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagtctac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aaccaacgat 300  
 ttttgagtg gttattttga ctactggggc caggggaacc tggtcaccgt ctctcagcc 360  
 tccaccaagg gcccatcggt cttccccctg gcgcctgtct ccaggagcac ctccgagagc 420  
 acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
 aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 540  
 ctctactccc tcagca 556

<210> 42  
 <211> 185  
 <212> PRT  
 <213> Homosapien

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Lys | Pro | Gly | Ala |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Val | Lys | Val | Ser | Cys | Lys | Val | Ser | Gly | His | Ile | Phe | Thr | Glu | Leu |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Ile | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Met |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gly | Phe | Asp | Pro | Glu | Asp | Gly | Glu | Thr | Ile | Tyr | Ala | Gln | Lys | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Gly | Arg | Val | Thr | Met | Thr | Glu | Asp | Thr | Ser | Thr | Asp | Thr | Val | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Thr | Asn | Asp | Phe | Trp | Ser | Gly | Tyr | Phe | Asp | Tyr | Trp | Gly | Gln | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser | Val | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser | Thr | Ala | Ala | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val | Thr | Val | Ser | Trp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe | Pro | Ala | Val | Leu |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Gln | Ser | Ser | Gly | Leu | Tyr | Ser | Leu | Ser |     |     |     |     |     |     |     |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     |     |     |     |

<210> 43  
 <211> 490  
 <212> DNA  
 <213> Homosapien

<400> 43  
 gacatcgtga tgaccagtc tccaggctcc ctggctgtgt ctctgggcga gagggccacc 60  
 atcaactgca agtccagcca gagtatttta ttcagggtcca acaataagaa ctatttaact 120  
 tgggtaccagc agaaaccagg acagcctcct aaactgctca tttactgggc atctatccgg 180  
 gaatccgggg tccctgatcg attcagtggc agcgggtctg ggtcaaattt cactctcacc 240  
 atcaccagcc tgcaggctga agatgtggca atttattact gtcagcaata ttatagtagt 300  
 ccgtggacgt tcggccaagg gaccaaggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgccctc 480  
 caatcgggta 490

<210> 44  
 <211> 163  
 <212> PRT  
 <213> Homosapien

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ile | Val | Met | Thr | Gln | Ser | Pro | Gly | Ser | Leu | Ala | Val | Ser | Leu | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |
| Glu | Arg | Ala | Thr | Ile | Asn | Cys | Lys | Ser | Ser | Gln | Ser | Ile | Leu | Phe | Arg |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Asn | Asn | Lys | Asn | Tyr | Leu | Thr | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln |
|     |     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |
| Pro | Pro | Lys | Leu | Leu | Ile | Tyr | Trp | Ala | Ser | Ile | Arg | Glu | Ser | Gly | Val |
|     |     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Asp | Arg | Phe | Ser | Gly | Ser | Gly | Ser | Gly | Ser | Asn | Phe | Thr | Leu | Thr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Ile | Thr | Ser | Leu | Gln | Ala | Glu | Asp | Val | Ala | Ile | Tyr | Tyr | Cys | Gln | Gln |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Tyr | Tyr | Ser | Ser | Pro | Trp | Thr | Phe | Gly | Gln | Gly | Thr | Lys | Val | Glu | Ile |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Lys | Arg | Thr | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Glu | Gln | Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn |
|     |     | 130 |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Phe | Tyr | Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn | Ala | Leu |

145  
Gln Ser Gly

150

155

160

<210> 45  
<211> 559  
<212> DNA  
<213> Homosapien

<400> 45  
caggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggctc 60  
tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120  
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtga aacaatcaac 180  
gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacaggctac 240  
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacagatcct 300  
gggtggatata gtggctactt tgaccactgg ggccagggaa ccctggtcac cgtctcctca 360  
gcctccacca agggcccatc ggtcttcccc ctggcgccct gctccaggag cacctccgag 420  
agcacagcgg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacgggtgtcg 480  
tggaactcag gcgctctgac cagcggcgtg cacaccttcc cagctgtcct acagtctca 540  
ggactctact ccctcagca 559

<210> 46  
<211> 186  
<212> PRT  
<213> Homosapien

<400> 46  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
1 5 10 15  
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu  
20 25 30  
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
35 40 45  
Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Asn Ala Gln Lys Phe  
50 55 60  
Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Gly Tyr  
65 70 75 80  
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95  
Ala Thr Asp Pro Gly Gly Tyr Ser Gly Tyr Phe Asp His Trp Gly Gln  
100 105 110  
Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125  
Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
130 135 140  
Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160  
Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175  
Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser  
180 185

<210> 47



<211> 464  
 <212> DNA  
 <213> Homosapien

<400> 47  
 gacatcgtga tgacccagtc tccagatttc ctggctgtgt ctctgggcga gaggcccacc 60  
 atcaactgca agtccagcca gagtggtttt tacagctcca acaataagaa ctacttagtt 120  
 tgggtaccagc agaaacccgg acagcctcct aagctgctcc tttactgggc atctacccgg 180  
 gaatccggggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttatagttct 300  
 ccgtggacgt tcggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcacatc tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaa 464

<210> 48  
 <211> 154  
 <212> PRT  
 <213> Homosapien

<400> 48  
 Asp Ile Val Met Thr Gln Ser Pro Asp Phe Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 Glu Arg Pro Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Phe Tyr Ser  
 20 25 30  
 Ser Asn Asn Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Leu Leu Leu Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
 50 55 60  
 Pro Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 65 70 75 80  
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
 85 90 95  
 Tyr Tyr Ser Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 100 105 110  
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 115 120 125  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 130 135 140  
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp  
 145 150

<210> 49  
 <211> 476  
 <212> DNA  
 <213> Homosapien

<400> 49  
 cagggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggct 60  
 tcttgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgatga aacaatctac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaca cacagcctac 240  
 atggaaactga gcagcctgag atctgaggac acggcctgtg attactgtgc aacacacgat 300  
 ttttggagtg cttatatttta ctactggggc cagggaaccc tggtcaccgt ctccctcagct 360  
 tccaccaagg gcccatccgt cttccccctg gcgcctgtct ccaggagcac ctccgagagc 420

acagccgccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtc 476

<210> 50  
<211> 158  
<212> PRT  
<213> Homosapien

<400> 50  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
1 5 10 15  
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu  
20 25 30  
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
35 40 45  
Gly Gly Phe Asp Pro Glu Asp Asp Glu Thr Ile Tyr Ala Gln Lys Phe  
50 55 60  
Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr His Thr Ala Tyr  
65 70 75 80  
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95  
Ala Thr His Asp Phe Trp Ser Ala Tyr Phe Tyr Tyr Trp Gly Gln Gly  
100 105 110  
Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe  
115 120 125  
Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu  
130 135 140  
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val  
145 150 155

<210> 51  
<211> 490  
<212> DNA  
<213> Homosapien

<400> 51  
gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60  
atcaactgca agtccagcca gagtgtttta tacggctcca acaataagag ctacttagct 120  
tggtaccagc agaaaccagg acagctcctt aagctgctca ttactgggc atctaccgg 180  
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
atcagcagcc tgcaggctgc agatgtggca gtttattact gtcagcaaca ttatagtact 300  
ccgtgcagtt ttggccaggg gaccaaactg gagatcaaac gaactgtggc tgcaccatct 360  
gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgccctc 480  
caatcgggta 490

<210> 52  
<211> 163  
<212> PRT  
<213> Homosapien

<400> 52  
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
1 5 10 15  
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Gly

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |     |
| Ser | Asn | Asn | Lys | Ser | Tyr | Leu | Ala | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln |
|     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |     |
| Pro | Pro | Lys | Leu | Leu | Ile | Tyr | Trp | Ala | Ser | Thr | Arg | Glu | Ser | Gly | Val |
|     | 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |
| Pro | Asp | Arg | Phe | Ser | Gly | Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr |
| 65  |     |     | 70  |     | 75  |     |     |     |     |     |     |     |     | 80  |     |
| Ile | Ser | Ser | Leu | Gln | Ala | Ala | Asp | Val | Ala | Val | Tyr | Tyr | Cys | Gln | Gln |
|     |     |     | 85  |     | 90  |     |     |     |     |     |     |     |     | 95  |     |
| His | Tyr | Ser | Thr | Pro | Cys | Ser | Phe | Gly | Gln | Gly | Thr | Lys | Leu | Glu | Ile |
|     | 100 |     | 105 |     | 110 |     |     |     |     |     |     |     |     |     |     |
| Lys | Arg | Thr | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp |
|     | 115 |     | 120 |     | 125 |     |     |     |     |     |     |     |     |     |     |
| Glu | Gln | Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn |
|     | 130 |     | 135 |     | 140 |     |     |     |     |     |     |     |     |     |     |
| Phe | Tyr | Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn | Ala | Leu |
| 145 |     |     | 150 |     | 155 |     |     |     |     |     |     |     |     | 160 |     |
| Gln | Ser | Gly |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 53  
 <211> 550  
 <212> DNA  
 <213> Homosapien

<400> 53  
 caggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggctc 60  
 tcctgcaagg cttctggata caccttcacc ggctactatc tgcactgggt gcgacaggcc 120  
 cctggacaag ggcttgagtg gatgggatgg atcaaccctt acaatgatgg cacaaactat 180  
 gcacagaagt ttcagggcag ggtcaccatg accagggaca cgtccatcag cacagcctac 240  
 atggagctga gcaggctgag atctgacgac acggccggtt attactgtgc gagagatata 300  
 gccgcagctg gagccgtcta ctttgactac tggggccagg gaaccctggt caccgtctcc 360  
 tcagcttcca ccaagggccc atccgtcttc cccctggcgc cctgctccag gagcacctcc 420  
 gagagcacag ccgccctggg ctgcctgggtc aaggactact ttccccgaac cggtgacggt 480  
 gtcgtggaac tcaggcgccc tgaccagcgg cgtgcacacc ttcccggctg tcctacagtc 540  
 ctcaggactt 550

<210> 54  
 <211> 183  
 <212> PRT  
 <213> Homosapien

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|     | 1   |     | 5   |     | 10  |     | 15  |     |     |     |     |     |     |     |     |
| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Lys | Pro | Gly | Ala |
|     | 20  |     | 25  |     | 30  |     |     |     |     |     |     |     |     |     |     |
| Ser | Val | Lys | Val | Ser | Cys | Lys | Ala | Ser | Gly | Tyr | Thr | Phe | Thr | Gly | Tyr |
|     | 35  |     | 40  |     | 45  |     |     |     |     |     |     |     |     |     |     |
| Tyr | Leu | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Gln | Gly | Leu | Glu | Trp | Met |
|     | 50  |     | 55  |     | 60  |     |     |     |     |     |     |     |     |     |     |
| Gly | Trp | Ile | Asn | Pro | Tyr | Asn | Asp | Gly | Thr | Asn | Tyr | Ala | Gln | Lys | Phe |
|     | 65  |     | 70  |     | 75  |     |     |     |     |     |     |     |     | 80  |     |
| Gln | Gly | Arg | Val | Thr | Met | Thr | Arg | Asp | Thr | Ser | Ile | Ser | Thr | Ala | Tyr |
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Met | Glu | Leu | Ser | Arg | Leu | Arg | Ser | Asp | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |
| Ala | Arg | Asp | Ile | Ala | Ala | Ala | Gly | Ala | Val | Tyr | Phe | Asp | Tyr | Trp | Gly |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |
| Gln | Gly | Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |
| Val | Phe | Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser | Thr | Ala |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |
| Ala | Leu | Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Arg | Thr | Gly | Asp | Gly |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |
| Val | Val | Glu | Leu | Arg | Arg | Pro | Asp | Gln | Arg | Arg | Ala | His | Leu | Pro | Gly |  |  |
|     |     |     |     | 165 |     |     |     | 170 |     |     |     |     | 175 |     |     |  |  |
| Cys | Pro | Thr | Val | Leu | Arg | Thr |     |     |     |     |     |     |     |     |     |  |  |
|     |     |     | 180 |     |     |     |     |     |     |     |     |     |     |     |     |  |  |

<210> 55  
 <211> 458  
 <212> DNA  
 <213> Homosapien

<400> 55  
 gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60  
 atcacttgcc aggcgagtca ggacattacc acctatttaa attggtatca gcagaaacca 120  
 gggaaagccc ctaagctcct gatctacgat gcatccaatt tggaaacagg ggtcccatca 180  
 aggttcagtg gaagtggatc tgggacagat ttactttca ccatcagcag cctgcagcct 240  
 gaagatattg caacatatta ctgtcaacaa tatgataatc tcccgatcac cttcggccaa 300  
 gggacacgac tggagattaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcga 360  
 tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat 420  
 cccagagagg ccaaagtaca gggaaggtgg ataacgcc 458

<210> 56  
 <211> 152  
 <212> PRT  
 <213> Homosapien

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
| Asp | Ile | Gln | Met | Thr | Gln | Ser | Pro | Ser | Ser | Leu | Ser | Ala | Ser | Val | Gly |  |  |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |  |  |
| Asp | Arg | Val | Thr | Ile | Thr | Cys | Gln | Ala | Ser | Gln | Asp | Ile | Thr | Thr | Tyr |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |
| Leu | Asn | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys | Ala | Pro | Lys | Leu | Leu | Ile |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |
| Tyr | Asp | Ala | Ser | Asn | Leu | Glu | Thr | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly |  |  |
|     | 50  |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |     |  |  |
| Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Phe | Thr | Ile | Ser | Ser | Leu | Gln | Pro |  |  |
| 65  |     |     |     | 70  |     |     |     | 75  |     |     |     |     |     | 80  |     |  |  |
| Glu | Asp | Ile | Ala | Thr | Tyr | Tyr | Cys | Gln | Gln | Tyr | Asp | Asn | Leu | Pro | Ile |  |  |
|     |     |     |     | 85  |     |     |     | 90  |     |     |     |     | 95  |     |     |  |  |
| Thr | Phe | Gly | Gln | Gly | Thr | Arg | Leu | Glu | Ile | Lys | Arg | Thr | Val | Ala | Ala |  |  |
|     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |     |  |  |
| Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp | Glu | Gln | Leu | Lys | Ser | Gly |  |  |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |  |  |
| Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn | Phe | Tyr | Pro | Arg | Glu | Ala |  |  |
|     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |     |  |  |
| Lys | Val | Gln | Gly | Arg | Trp | Ile | Thr |     |     |     |     |     |     |     |     |  |  |

145

150

&lt;210&gt; 57

&lt;211&gt; 571

&lt;212&gt; DNA

&lt;213&gt; Homosapien

&lt;400&gt; 57

```

caggtccagc tggtagagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggct 60
tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtga aacaatctac 180
gcacagaagt tccagggcag agtcatgatg accgaggaca catctacaga cacagccttc 240
atggacctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacagacgat 300
atgttgaccc ctcaactact ctacttcggt atggacgtct ggggccaagg gaccacggctc 360
accgtctcct cagcttccac caagggccca tccgtcttcc ccctggcgcc ctgctccagg 420
agcacctccg agagcacagc cgccctgggc tgcctgggtca aggactactt ccccgaaaccg 480
gtgacgggtg cgtggaactc aggcgccttg accagcggcg tgcacacctt cccggctgtc 540
ctacagtcct caggactcta ctccctcagc a                                     571

```

&lt;210&gt; 58

&lt;211&gt; 190

&lt;212&gt; PRT

&lt;213&gt; Homosapien

&lt;400&gt; 58

```

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1           5           10           15
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
 20           25           30
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35           40           45
Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
 50           55           60
Gln Gly Arg Val Met Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Phe
 65           70           75           80
Met Asp Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85           90           95
Ala Thr Asp Asp Met Leu Thr Pro His Tyr Leu Tyr Phe Gly Met Asp
100           105           110
Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys
115           120           125
Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu
130           135           140
Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
145           150           155           160
Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
165           170           175
Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180           185           190

```

&lt;210&gt; 59

&lt;211&gt; 458

&lt;212&gt; DNA

<213> Homosapien

<400> 59

```
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
atcacttgcc gggcaagtca gggcattaga aatgatttag gctgggatca gcagaaacca 120
gggaaagccc ctaagcgcct gatctatgct acatccagtt tgcaaagtgg ggtcccatca 180
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240
gaagattttg caacttatta ctgtctacag cataatactt acccattcac tttcggccct 300
gggaccaaag tggatatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcca 360
tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat 420
cccagagagg ccaaagtaca gtggaagggtg gataacgc 458
```

<210> 60

<211> 152

<212> PRT

<213> Homosapien

<400> 60

```
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1           5           10           15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp
 20           25           30
Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile
 35           40           45
Tyr Ala Thr Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50           55           60
Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65           70           75           80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Thr Tyr Pro Phe
 85           90           95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala
100           105           110
Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115           120           125
Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130           135           140
Lys Val Gln Trp Lys Val Asp Asn
145           150
```

<210> 61

<211> 1338

<212> DNA

<213> Homosapien

<400> 61

```
cagggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60
acctgcactg tctcagggtg ctccatcagc agtggtggta actactggaa ctggatccgc 120
cagcaccacag ggaagggcct ggagtggatt gggatcatct attacagtgg aaacacctac 180
tacaacccgt ccctcaagag tcgaattacc atatcaatag acacgtctaa gaaccagttc 240
tccttgaccc tgagctctgt gactgccgcg gacacggccg tgtattactg tgcgagagat 300
gggtggagacg atgcttttga tatctggggc caagggacaa tggtcaccgt ctcttcagct 360
tccaccaagg gcccatecgt cttccccctg gcgccttgct ccaggagcac ctccgagagc 420
acagccgccc tgggtgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480
aactcaggcg ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtcctcagga 540
```

```

ctctactccc tcagcagcgt ggtgaccgtg ccctccagca gcttggggcac gaagacctac 600
acctgcaacg tagatcacaa gcccagcaac accaaggtgg acaagagagt tgagtccaaa 660
tatgggtcccc catgcccatac atgcccagca cctgagttcc tgggggggacc atcagtcttc 720
ctgttcccccc caaaacccaa ggacactctc atgatctccc ggaccctga ggtcacgtgc 780
gtgggtgggtg acgtgagcca ggaagacccc gaggtccagt tcaactggta cgtggatggc 840
gtggaggtgc ataatgcaa gacaaagccg cgggaggagc agttcaacag cacgtaccgt 900
gtggtcagcg tcctcaccgt cctgcaccag gactggctga acggcaagga gtacaagtgc 960
aaggtctcca acaaaggcct cccgtcctcc atcgagaaaa ccatctccaa agccaaaggg 1020
cagccccgag agccacaggt gtacaccctg ccccatccc aggaggagat gaccaagaac 1080
caggtcagcc tgacctgcct ggtcaaaggc ttctacccca gcgacatcgc cgtggagtgg 1140
gagagcaatg ggcagccgga gaacaactac aagaccagc ctcccgtgct ggactccgac 1200
ggctccttct tcctctacag caggctaacc gtggacaaga gcaggtggca ggaggggaat 1260
gtcttctcat gtcctgtgat gcatgaggct ctgcacaacc actacacaca gaagagcctc 1320
tcctgtctc tgggtaaa 1338

```

<210> 62

<211> 446

<212> PRT

<213> Homosapien

<400> 62

```

Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1          5          10          15
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
20          25          30
Gly Asn Tyr Trp Asn Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu
35          40          45
Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Asn Thr Tyr Tyr Asn Pro Ser
50          55          60
Leu Lys Ser Arg Ile Thr Ile Ser Ile Asp Thr Ser Lys Asn Gln Phe
65          70          75          80
Ser Leu Thr Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr
85          90          95
Cys Ala Arg Asp Gly Gly Asp Asp Ala Phe Asp Ile Trp Gly Gln Gly
100          105          110
Thr Met Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
115          120          125
Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
130          135          140
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
145          150          155          160
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
165          170          175
Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser
180          185          190
Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro
195          200          205
Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro
210          215          220
Cys Pro Ser Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe
225          230          235          240
Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro
245          250          255
Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val
260          265          270

```

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Phe | Asn | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His | Asn | Ala | Lys | Thr |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Lys | Pro | Arg | Glu | Glu | Gln | Phe | Asn | Ser | Thr | Tyr | Arg | Val | Val | Ser | Val |
|     |     | 290 |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Leu | Thr | Val | Leu | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Tyr | Lys | Cys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Lys | Val | Ser | Asn | Lys | Gly | Leu | Pro | Ser | Ser | Ile | Glu | Lys | Thr | Ile | Ser |
|     |     |     | 325 |     |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Lys | Ala | Lys | Gly | Gln | Pro | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu | Pro | Pro |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Ser | Gln | Glu | Glu | Met | Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys | Leu | Val |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Lys | Gly | Phe | Tyr | Pro | Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu | Ser | Asn | Gly |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Gln | Pro | Glu | Asn | Asn | Tyr | Lys | Thr | Thr | Pro | Pro | Val | Leu | Asp | Ser | Asp |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Gly | Ser | Phe | Phe | Leu | Tyr | Ser | Arg | Leu | Thr | Val | Asp | Lys | Ser | Arg | Trp |
|     |     |     | 405 |     |     |     |     | 410 |     |     |     |     |     | 415 |     |
| Gln | Glu | Gly | Asn | Val | Phe | Ser | Cys | Ser | Val | Met | His | Glu | Ala | Leu | His |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Asn | His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser | Leu | Ser | Leu | Gly | Lys |     |     |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |

<210> 63  
 <211> 642  
 <212> DNA  
 <213> Homosapien

<400> 63  
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60  
 atcacttgcc aggcgagtca ggacattagc aactatttaa attggtatca gcagaaacca 120  
 gggaaagccc ctaaactcct gatctacgat gcatccaatt tggaaacagg ggtcccatca 180  
 aggttcagtg gaagtggatc tgggacagat tttactttca ccatcaacag cctgcagcct 240  
 gaagatattg caacatatta ctgtcaagaa tataataatc tcccgtacag ttttggccag 300  
 gggaccaagt tggagatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcga 360  
 tctgatgagc agttgaaatc tggaaactgcc tctgttgtgt gcctgctgaa taacttctat 420  
 cccagagagg ccaaagtaca gtggaagggtg gataacgccc tccaatcggg taactcccag 480  
 gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540  
 ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600  
 ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gt 642

<210> 64  
 <211> 214  
 <212> PRT  
 <213> Homosapien

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ile | Gln | Met | Thr | Gln | Ser | Pro | Ser | Ser | Leu | Ser | Ala | Ser | Val | Gly |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |     |
| Asp | Arg | Val | Thr | Ile | Thr | Cys | Gln | Ala | Ser | Gln | Asp | Ile | Ser | Asn | Tyr |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |
| Leu | Asn | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Lys | Ala | Pro | Lys | Leu | Leu | Ile |
|     | 35  |     |     |     |     | 40  |     |     |     | 45  |     |     |     |     |     |
| Tyr | Asp | Ala | Ser | Asn | Leu | Glu | Thr | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly |



|   |     |    |     |    |     |
|---|-----|----|-----|----|-----|
| 50  |     | 55 |     | 60 |     |
| Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Asn Ser Leu Gln Pro |     |    |     |    |     |
| 65  |     | 70 |     | 75 | 80  |
| Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Glu Tyr Asn Asn Leu Pro Tyr |     |    |     |    |     |
|   | 85  |    | 90  |    | 95  |
| Ser Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala |     |    |     |    |     |
|   | 100 |    | 105 |    | 110 |
| Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly |     |    |     |    |     |
|   | 115 |    | 120 |    | 125 |
| Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala |     |    |     |    |     |
|   | 130 |    | 135 |    | 140 |
| Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln |     |    |     |    |     |
|   | 145 |    | 150 |    | 155 |
| Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser |     |    |     |    |     |
|   | 165 |    | 170 |    | 175 |
| Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr |     |    |     |    |     |
|   | 180 |    | 185 |    | 190 |
| Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser |     |    |     |    |     |
|   | 195 |    | 200 |    | 205 |
| Phe Asn Arg Gly Glu Cys   |     |    |     |    |     |
| 210   |     |    |     |    |     |

<210> 65

<211> 1341

<212> DNA

<213> Homosapien

<400> 65

```

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tcttgcaagg tttccggaga caccctcact gaattatcca tgcactgggt gcgacaggct 120
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtg aacaatctac 180
gcacggaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagtttac 240
atggagctga gcagcctgag atctgaggac acggccgtgt atttctgtgc aacagattca 300
cgtggatata gtggctactt tgacaactgg ggccagggaa ccctggtcac cgtctcctca 360
gcttccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag 420
agcacagccg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacgggtgtcg 480
tggaactcag gcgccctgac cagcggcggtg cacaccttcc cggctgtcct acagtccctca 540
ggactctact ccctcagcag cgtggtgacc gtgccctcca gcagcttggg cacgaagacc 600
tacacctgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtc 660
aaatatggtc ccccatgccc atcatgccc gcacctgagt tcctgggggg accatcagtc 720
ttcctgttcc ccccaaaacc caaggacact ctcgatgatc cccggacccc tgagggtcacg 780
tgcggtgggtg tggacgtgag ccaggaagac cccgagggtc agttcaactg gtacgtggat 840
ggcgtggagg tgcataatgc caagacaaag ccgcgaggag agcagttcaa cagcacgtac 900
cgtgtgggtc gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag 960
tgcaagggtc ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa 1020
gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag 1080
aaccagggtc gcctgacctg cctgggtcaaa ggcttctacc ccagcgacat cgccgtggag 1140
tgaggagagc atgggcagcc ggagaacaa tacaagacca cgctcccgt gctggactcc 1200
gacggctcct tcttctctca cagcaggcta accgtggaca agagcaggtg gcaggagggg 1260
aatgtcttct catgtccgt gatgcatgag gctctgcaca accactacac acagaagagc 1320
ctctccctgt ctctgggtaa a                                     1341

```

<210> 66

<211> 447

<212> PRT  
 <213> Homosapien

<400> 66

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Lys | Pro | Gly | Ala | 1   | 5   | 10  | 15  |
| Ser | Val | Gln | Val | Ser | Cys | Lys | Val | Ser | Gly | Asp | Thr | Leu | Thr | Glu | Leu | 20  | 25  | 30  |     |
| Ser | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Met | 35  | 40  | 45  |     |
| Gly | Gly | Phe | Asp | Pro | Glu | Asp | Gly | Glu | Thr | Ile | Tyr | Ala | Arg | Lys | Phe | 50  | 55  | 60  |     |
| Gln | Gly | Arg | Val | Thr | Met | Thr | Glu | Asp | Thr | Ser | Thr | Asp | Thr | Val | Tyr | 65  | 70  | 75  | 80  |
| Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Phe | Cys | 85  | 90  | 95  |     |
| Ala | Thr | Asp | Ser | Arg | Gly | Tyr | Ser | Gly | Tyr | Phe | Asp | Asn | Trp | Gly | Gln | 100 | 105 | 110 |     |
| Gly | Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser | Val | 115 | 120 | 125 |     |
| Phe | Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser | Thr | Ala | Ala | 130 | 135 | 140 |     |
| Leu | Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val | Thr | Val | Ser | 145 | 150 | 155 | 160 |
| Trp | Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe | Pro | Ala | Val | 165 | 170 | 175 |     |
| Leu | Gln | Ser | Ser | Gly | Leu | Tyr | Ser | Leu | Ser | Ser | Val | Val | Thr | Val | Pro | 180 | 185 | 190 |     |
| Ser | Ser | Ser | Leu | Gly | Thr | Lys | Thr | Tyr | Thr | Cys | Asn | Val | Asp | His | Lys | 195 | 200 | 205 |     |
| Pro | Ser | Asn | Thr | Lys | Val | Asp | Lys | Arg | Val | Glu | Ser | Lys | Tyr | Gly | Pro | 210 | 215 | 220 |     |
| Pro | Cys | Pro | Ser | Cys | Pro | Ala | Pro | Glu | Phe | Leu | Gly | Gly | Pro | Ser | Val | 225 | 230 | 235 | 240 |
| Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Arg | Thr | 245 | 250 | 255 |     |
| Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | Gln | Glu | Asp | Pro | Glu | 260 | 265 | 270 |     |
| Val | Gln | Phe | Asn | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His | Asn | Ala | Lys | 275 | 280 | 285 |     |
| Thr | Lys | Pro | Arg | Glu | Glu | Gln | Phe | Asn | Ser | Thr | Tyr | Arg | Val | Val | Ser | 290 | 295 | 300 |     |
| Val | Leu | Thr | Val | Leu | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Tyr | Lys | 305 | 310 | 315 | 320 |
| Cys | Lys | Val | Ser | Asn | Lys | Gly | Leu | Pro | Ser | Ser | Ile | Glu | Lys | Thr | Ile | 325 | 330 | 335 |     |
| Ser | Lys | Ala | Lys | Gly | Gln | Pro | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu | Pro | 340 | 345 | 350 |     |
| Pro | Ser | Gln | Glu | Glu | Met | Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys | Leu | 355 | 360 | 365 |     |
| Val | Lys | Gly | Phe | Tyr | Pro | Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu | Ser | Asn | 370 | 375 | 380 |     |
| Gly | Gln | Pro | Glu | Asn | Asn | Tyr | Lys | Thr | Thr | Pro | Pro | Val | Leu | Asp | Ser | 385 | 390 | 395 | 400 |
| Asp | Gly | Ser | Phe | Phe | Leu | Tyr | Ser | Arg | Leu | Thr | Val | Asp | Lys | Ser | Arg |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |  |  |
| Trp | Gln | Glu | Gly | Asn | Val | Phe | Ser | Cys | Ser | Val | Met | His | Glu | Ala | Leu |  |  |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |  |  |
| His | Asn | His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser | Leu | Ser | Leu | Gly | Lys |     |  |  |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |  |  |

<210> 67  
 <211> 660  
 <212> DNA  
 <213> Homosapien

<400> 67  
 gacatcgtga tgacccagtc tccagactcc ctggtgtgtgt ctctgggcga gagggccacc 60  
 atcaactgca agtccagcca gagtgtttta tacagotcca acaataacaa ctacttagtt 120  
 tgggtaccagc agaaaccagg acagcctcct aaattgctca ttacttgggc atctaccgg 180  
 gaattcgggg ttcttgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttatttttct 300  
 ccgtggacgt tcggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtga taacgcctc 480  
 caatcgggta actcccagga gagtgtcaca gagcaggaca gcaaggacag cacctacagc 540  
 ctcagcagca ccctgacgct gagcaaagca gactacgaga aacacaaagt ctacgcctgc 600  
 gaagtcaccc atcagggcct gagctcgccc gtcacaaaga gcttcaacag gggagagtgt 660

<210> 68  
 <211> 220  
 <212> PRT  
 <213> Homosapien

<400> 68  
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
 20 25 30  
 Ser Asn Asn Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Phe Gly Val  
 50 55 60  
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 65 70 75 80  
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
 85 90 95  
 Tyr Tyr Phe Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 100 105 110  
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 115 120 125  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 130 135 140  
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu  
 145 150 155 160  
 Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp  
 165 170 175  
 Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr

|             |                         |                 |                 |  |     |
|-------------|-------------------------|-----------------|-----------------|--|-----|
|             | 180                     |                 | 185             |  | 190 |
| Glu Lys His | Lys Val Tyr Ala Cys     | Glu Val Thr His | Gln Gly Leu Ser |  |     |
|             | 195                     | 200             | 205             |  |     |
| Ser Pro Val | Thr Lys Ser Phe Asn Arg | Gly Glu Cys     |                 |  |     |
|             | 210                     | 215             | 220             |  |     |

<210> 69  
 <211> 556  
 <212> DNA  
 <213> Homosapien

<400> 69  
 caggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggct 60  
 tcctgcaagg tttccggata caccctcact gatttatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatggtga aacaatctac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catcttcaga cacagcctac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aaccacagaa 300  
 ttttggagtg gttatatttga ctactggggc caggggaaccc tggtcaccgt ctccctcagct 360  
 tccaccaagg gcccatccgt cttccccctg gcgccttgct ccaggagcac ctccgagagc 420  
 acagccgccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
 aactcaggcg ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtcctcagga 540  
 ctctactccc tcagca 556

<210> 70  
 <211> 185  
 <212> PRT  
 <213> Homosapien

<400> 70  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
 1 5 10 15  
 Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Asp Leu  
 20 25 30  
 Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
 35 40 45  
 Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe  
 50 55 60  
 Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Ser Asp Thr Ala Tyr  
 65 70 75 80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Thr His Glu Phe Trp Ser Gly Tyr Phe Asp Tyr Trp Gly Gln Gly  
 100 105 110  
 Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe  
 115 120 125  
 Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu  
 130 135 140  
 Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp  
 145 150 155 160  
 Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu  
 165 170 175  
 Gln Ser Ser Gly Leu Tyr Ser Leu Ser  
 180 185

<210> 71  
 <211> 476  
 <212> DNA  
 <213> Homosapien

<400> 71  
 gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcca gagggccacc 60  
 atcaactgca agtccagcca gagtggttta ttcagctcca acaataagag ctacttaact 120  
 tgggtaccagc agaaaccagg acagcctcct aaattactca ttttctgggc atctatccgg 180  
 gaatccggggg tccctgaccg aatcagtgge agcgggtctg ggacagatct cactctcacc 240  
 atcagcagcc tgcaggctga agatgcggca gtttattact gtcagcaata ttatagtagt 300  
 ccgtggacgt tccgccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcacat tcccgcacatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtga taacgc 476

<210> 72  
 <211> 158  
 <212> PRT  
 <213> Homosapien

<400> 72  
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Phe Ser  
 20 25 30  
 Ser Asn Asn Lys Ser Tyr Leu Thr Trp Tyr Gln Gln Lys Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Leu Leu Ile Phe Trp Ala Ser Ile Arg Glu Ser Gly Val  
 50 55 60  
 Pro Asp Arg Ile Ser Gly Ser Gly Thr Asp Leu Thr Leu Thr  
 65 70 75 80  
 Ile Ser Ser Leu Gln Ala Glu Asp Ala Val Tyr Tyr Cys Gln Gln  
 85 90 95  
 Tyr Tyr Ser Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 100 105 110  
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 115 120 125  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 130 135 140  
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn  
 145 150 155

<210> 73  
 <211> 546  
 <212> DNA  
 <213> Homosapien

<400> 73  
 cagggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggct 60  
 tcctgcaagg tttccggata caccctcagt gaattatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtga aataatccac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacaggcgat 300

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ttttggagtg gttattacct tgactggtgg ggccagggaa ccctgggtcac cgtctcctca 360
gcttccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag 420
agcacagccg ccctgggctg cctgggtcaag gactacttcc ccgaaccggg gacgggtgtcg 480
tggaactcag gcgccctgac cagcggcggtg cacaccttcc cggctgtcct acagtctctca 540
ggactt
546

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<210> 74
<211> 182
<212> PRT
<213> Homosapien

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<400> 74
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1      5      10      15
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Ser Glu Leu
20     25     30
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35     40     45
Gly Gly Phe Asp Pro Glu Asp Gly Glu Ile Ile His Ala Gln Lys Phe
50     55     60
Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
65     70     75     80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85     90     95
Ala Thr Gly Asp Phe Trp Ser Gly Tyr Tyr Leu Asp Trp Trp Gly Gln
100    105    110
Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
115    120    125
Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
130    135    140
Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145    150    155    160
Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
165    170    175
Leu Gln Ser Ser Gly Leu
180

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<210> 75
<211> 457
<212> DNA
<213> Homosapien

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<400> 75
gaaatagtga tgatgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
ctctcctgca gggccagtca gagggttaac agcaacttag cctggtacca gcagaaacct 120
ggccaggctc ccaggctcct catcaacggg gcatccacca gggccactgg catcccagcc 180
aggttcagtg gcagtgggtc tgggacagag ttcacctca ccatcagcag cctgcagtct 240
gaagattttg caattttatta ctgtcagcag tataatgact ggcttacgtt cactttcggc 300
ggagggacca aggtggagat caatcgaact gtggctgcac catctgtctt catcttcccg 360
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc 420
tatcccagag aggccaaagt acagtgggaa ggtggat
457

```

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<210> 76
<211> 152

```

<212> PRT  
 <213> Homosapien

<400> 76  
 Glu Ile Val Met Met Gln Ser Pro Ala Thr Leu Ser Val Ser Pro Gly  
 1 5 10 15  
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Asn Ser Asn  
 20 25 30  
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile  
 35 40 45  
 Asn Gly Ala Ser Thr Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly  
 50 55 60  
 Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Ser  
 65 70 75 80  
 Glu Asp Phe Ala Ile Tyr Tyr Cys Gln Gln Tyr Asn Asp Trp Pro Thr  
 85 90 95  
 Phe Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Asn Arg Thr Val Ala  
 100 105 110  
 Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser  
 115 120 125  
 Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu  
 130 135 140  
 Ala Lys Val Gln Trp Glu Gly Gly  
 145 150

<210> 77  
 <211> 470  
 <212> DNA  
 <213> Homosapien

<400> 77  
 cagggtccagc tggtagcagtc tgggggctgag gtgaagaagc ctgggggcctc agtgaagggtc 60  
 tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtga aacaatgtac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aaccgacgat 300  
 ttttggagtg gttattttga ctactggggc caggggaacc tggtcaccgt ctccctcagcc 360  
 tccaccaagg gcccatcggt cttccccctg gcgccttgct ccaggagcac ctccgagagc 420  
 acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggcagg 470

<210> 78  
 <211> 156  
 <212> PRT  
 <213> Homosapien

<400> 78  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
 1 5 10 15  
 Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu  
 20 25 30  
 Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
 35 40 45  
 Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Met Tyr Ala Gln Lys Phe  
 50 55 60

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Gly | Arg | Val | Thr | Met | Thr | Glu | Asp | Thr | Ser | Thr | Asp | Thr | Ala | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |
| Ala | Thr | Asp | Asp | Phe | Trp | Ser | Gly | Tyr | Phe | Asp | Tyr | Trp | Gly | Gln | Gly |
|     |     |     |     | 100 |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser | Val | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser | Thr | Ala | Ala | Leu |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Ala |     |     |     |     |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     |     |

<210> 79  
 <211> 490  
 <212> DNA  
 <213> Homosapien

<400> 79  
 gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctggacga gagggccacc 60  
 atcaactgca agtccagcca gagtgtttta tacagtccca accaaaagaa ctacttagtt 120  
 tggatcagc agaagccagg acagcctect aagctgctcc ttactgggc atctatccgg 180  
 gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcagcagcc tgcaggctga agatgtggca gtttattact gtcaacaaag ttattttact 300  
 ccgtggacgt tcggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttggtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgccttc 480  
 caatcggtga 490

<210> 80  
 <211> 163  
 <212> PRT  
 <213> Homosapien

<400> 80  
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Asp  
 1 5 10 15  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
 20 25 30  
 Pro Asn Gln Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Leu Leu Leu Tyr Trp Ala Ser Ile Arg Glu Ser Gly Val  
 50 55 60  
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 65 70 75 80  
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
 85 90 95  
 Ser Tyr Phe Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 100 105 110  
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 115 120 125  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 130 135 140  
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu



145  
Gln Ser Gly

150

155

160

<210> 81  
<211> 556  
<212> DNA  
<213> Homosapien

<400> 81  
cagggtccagc tgggtacagtc tgggggctgag gtgaagaagc ctgggggcctc agtgaagggtc 60  
tcctgcaagg tttccggata caccctcagc gaattatcca tgcactgggt gcgacagggt 120  
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgatga aacaatctac 180  
gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagccttc 240  
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacccacgat 300  
ttttggagtg gttattttca ctactggggc caggggaacc tggtcacctg ctccctcagct 360  
tccaccaagg gcccatccgt cttccccctg gcgccttgc ccaggagcac ctccgagagc 420  
acagccgccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
aactcaggcg ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtcctcagga 540  
ctctactccc tcagca 556

<210> 82  
<211> 185  
<212> PRT  
<213> Homosapien

<400> 82  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
1 5 10 15  
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Ser Glu Leu  
20 25 30  
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
35 40 45  
Gly Gly Phe Asp Pro Glu Asp Asp Glu Thr Ile Tyr Ala Gln Lys Phe  
50 55 60  
Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Phe  
65 70 75 80  
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95  
Ala Thr His Asp Phe Trp Ser Gly Tyr Phe His Tyr Trp Gly Gln Gly  
100 105 110  
Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe  
115 120 125  
Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu  
130 135 140  
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp  
145 150 155 160  
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu  
165 170 175  
Gln Ser Ser Gly Leu Tyr Ser Leu Ser  
180 185

<210> 83

<211> 476  
 <212> DNA  
 <213> Homosapien

<400> 83  
 gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60  
 atcaactgca agtccagcca gagtggttta tacagctccg acaataagag ctacttagtt 120  
 tgggtaccagc agaaaccagg acagcctcct aagggtgctca tttactgggc atctattcgg 180  
 gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttatactagt 300  
 ccgtggacgt tcggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtga taacgc 476

<210> 84  
 <211> 158  
 <212> PRT  
 <213> Homosapien

<400> 84  
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
 20 25 30  
 Ser Asp Asn Lys Ser Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Val Leu Ile Tyr Trp Ala Ser Ile Arg Glu Ser Gly Val  
 50 55 60  
 Pro Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 65 70 75 80  
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
 85 90 95  
 Tyr Tyr Thr Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 100 105 110  
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 115 120 125  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 130 135 140  
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn  
 145 150 155

<210> 85  
 <211> 543  
 <212> DNA  
 <213> Homosapien

<400> 85  
 cagggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60  
 tcctgtaagg tttccggata caccctcaact gaattatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtga aacaatctac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aatccacgag 300  
 ttttgagtg gttattttga ctactggggc caggggaacc tggtcaccgt ctcttcagct 360  
 tccaccaagg gcccatccgt cttccccctg gcgcctgtct ccaggagcac ctccgagagc 420

acagccgccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
aactcaggcg ccctgaccag cggcgtgcac accttccccg ctgtcctaca gtcctcagga 540  
ctt 543

<210> 86  
<211> 181  
<212> PRT  
<213> Homosapien

<400> 86  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
1 5 10 15  
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu  
20 25 30  
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
35 40 45  
Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe  
50 55 60  
Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr  
65 70 75 80  
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95  
Ala Ile His Glu Phe Trp Ser Gly Tyr Phe Asp Tyr Trp Gly Gln Gly  
100 105 110  
Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe  
115 120 125  
Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu  
130 135 140  
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp  
145 150 155 160  
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu  
165 170 175  
Gln Ser Ser Gly Leu  
180

<210> 87  
<211> 477  
<212> DNA  
<213> Homosapien

<400> 87  
gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60  
atcaactgca agtccagcct gagtgtttta tacagctcca acaataagaa ctatttagtt 120  
tggtaccttc agaaaaccagg acagcctcct aagttgctca tttactgggc atctaccggg 180  
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
atcagcagcc tgcaggccga agatgtggca gtttattact gtcagcaata ttatagttct 300  
ccgtggacgt tcggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgcc 477

<210> 88  
<211> 159  
<212> PRT  
<213> Homosapien

<400> 88

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
1 5 10 15  
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Leu Ser Val Leu Tyr Ser  
20 25 30  
Ser Asn Asn Lys Asn Tyr Leu Val Trp Tyr Leu Gln Lys Pro Gly Gln  
35 40 45  
Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60  
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80  
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
85 90 95  
Tyr Tyr Ser Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
100 105 110  
Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
115 120 125  
Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
130 135 140  
Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala  
145 150 155

<210> 89

<211> 1335

<212> DNA

<213> Homosapien

<400> 89

cagggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggctc 60  
tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacagact 120  
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtga aacaatctac 180  
gcacagaagt tccaggacag agtcaccatg accgaggaca catctacaga cacagcctac 240  
atggaactga gcagcctgag atctgaggac acggccgtgt attactgtgc aacaaacgat 300  
ttttggactg gttattatga ctactggggc cagggaaccc tggtcaccgt ctccctcagcc 360  
tcaccaagg gcccatcggt cttccccctg gcgccttget ccaggagcac ctccgagagc 420  
acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 540  
ctctactccc tcagcagcgt ggtgaccgtg ccctccagca acttcggcac ccagacctac 600  
acctgcaacg tagatcaciaa gccccagcaac accaagggtg acaagacagt tgagcgcaaa 660  
tggtgtgtcg agtgcccacc gtgcccagca ccacctgtgg caggaccgtc agtcttctc 720  
ttcccccaa aaccaagga caccctcatg atctcccga cccctgaggt cagtgcggtg 780  
gtggtggacg tgagccacga agaccccagag gtccagttca actggtacgt ggacggcggtg 840  
gaggtgcata atgccaagac aaagccacgg gaggagcagt tcaacagcac gttccgtgtg 900  
gtcagcgtcc tcaccgttgt gcaccaggac tggctgaacg gcaaggagta caagtgcag 960  
gtctccaaca aaggcctccc agcccccatc gagaaaacca tctccaaaac caaagggcag 1020  
ccccgagaac cacaggtgta caccctgccc ccatcccggg aggagatgac caagaaccag 1080  
gtcagcctga cctgcctggt caaaggcttc taccacagcg acatcgccgt ggagtgaggag 1140  
agcaatgggc agccggagaa caactacaag accacacctc ccatgtgtga ctccgacggc 1200  
tccttcttcc tctacagcaa gtcaccgtg gacaagagca ggtggcagca ggggaacgtc 1260  
ttctcatgct ccgtgatgca tgaggctctg cacaaccact acacgcagaa gagcctctcc 1320  
ctgtctccgg gtaaa 1335

<210> 90

<400> 90

- 45 -

Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln  
405 410 415  
Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn  
420 425 430  
His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
435 440 445

<210> 91  
<211> 660  
<212> DNA  
<213> Homosapien

<400> 91  
gacatcgtga tgaccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60  
atcaactgca agtccagcca gagggtttta tacagctcca acaataagaa ctacttagtt 120  
tggtaccagc agaaaccagg acagcctcct aagacgctca ttactgggc atctaccgg 180  
gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
atcagcagcc tgcaggctga agatgtggga gtttattact gtcaacaata ttatactagt 300  
ccgtggacgt tccggccaagg gaccaagggtg gaaatcaagc gaactgtggc tgcaccatct 360  
gtcttcatct tcccgcctatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtgga taacgccctc 480  
caatcgggta actcccagga gagggtcaca gagcaggaca gcaaggacag cacctacagc 540  
ctcagcagca ccctgacgct gagcaaagca gactacgaga aacacaaagt ctacgcctgc 600  
gaagtcaccc atcagggcct gagctcgccc gtcacaaaga gcttcaacag gggagagtgt 660

<210> 92  
<211> 220  
<212> PRT  
<213> Homosapien

<400> 92  
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
1 5 10 15  
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
20 25 30  
Ser Asn Asn Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45  
Pro Pro Lys Thr Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60  
Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80  
Ile Ser Ser Leu Gln Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln Gln  
85 90 95  
Tyr Tyr Thr Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
100 105 110  
Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
115 120 125  
Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
130 135 140  
Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu  
145 150 155 160  
Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp  
165 170 175

Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr  
180 185 190  
Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser  
195 200 205  
Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys  
210 215 220

<210> 93  
<211> 560  
<212> DNA  
<213> Homosapien

<400> 93  
caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cgtcacagac cctgtccctc 60  
acctgcactg tctctgggtgg ctccatcagc agtgggtggtt actactggag ctggatccgc 120  
cagcaccag ggaagggcct ggagtggatt gggtagatct attacagtgg gagcacctac 180  
tacaaccgt ccctcaagag tgcagttatc atatcagtag acacgtctaa gaaccagttc 240  
tccctgaagc tgacctctgt gactgccgcg gacacggccg tgtattactg tgcgagatca 300  
tatagcagct cgtccccact gggtcgaccc ctggggccag ggaaccctgg tcaccgtctc 360  
ctcagcttcc accaagggcc catccgtctt cccctggcg cctggtcca ggagcacctc 420  
cgagagcaca gccgccctgg gctgcctggt caaggactac ttccccgaac cgggtgacggt 480  
gtcgtggaac tcaggcgccc tgaccagcgg cgtgcacacc ttcccggtg tcctacagtc 540  
ctcaggactc tactccctca 560

<210> 94  
<211> 186  
<212> PRT  
<213> Homosapien

<400> 94  
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15  
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly  
20 25 30  
Gly Tyr Tyr Trp Ser Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu  
35 40 45  
Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser  
50 55 60  
Leu Lys Ser Arg Val Ile Ile Ser Val Asp Thr Ser Lys Asn Gln Phe  
65 70 75 80  
Ser Leu Lys Leu Thr Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr  
85 90 95  
Cys Ala Arg Ser Tyr Ser Ser Ser Ser Pro Leu Val Arg Pro Leu Gly  
100 105 110  
Pro Gly Asn Pro Gly His Arg Leu Leu Ser Phe His Gln Gly Pro Ile  
115 120 125  
Arg Leu Pro Pro Gly Ala Leu Leu Gln Glu His Leu Arg Glu His Ser  
130 135 140  
Arg Pro Gly Leu Pro Gly Gln Gly Leu Leu Pro Arg Thr Gly Asp Gly  
145 150 155 160  
Val Val Glu Leu Arg Arg Pro Asp Gln Arg Arg Ala His Leu Pro Gly  
165 170 175  
Cys Pro Thr Val Leu Arg Thr Leu Leu Pro  
180 185

<210> 95  
 <211> 458  
 <212> DNA  
 <213> Homosapien

<400> 95  
 gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60  
 atcacttgcc gggcaagtca gggcattaga aatgatttag gctggtatca gcagaaacca 120  
 gggaaagccc ctaagcgcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180  
 aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240  
 gaagattttg caacttatta ctgtctacag cataatagtt acccattcac tttcggccct 300  
 gggaccaaag tggatatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcc 360  
 tctgatgagc agttgaaatc tggaaactgcc tctgttgtgt gcctgctgaa taacttctat 420  
 cccagagagg ccaaagtaca gtggaagggtg gataacgc 458

<210> 96  
 <211> 152  
 <212> PRT  
 <213> Homosapien

<400> 96  
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
 1 5 10 15  
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp  
 20 25 30  
 Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Leu Ile  
 35 40 45  
 Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly  
 50 55 60  
 Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
 65 70 75 80  
 Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Ser Tyr Pro Phe  
 85 90 95  
 Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg Thr Val Ala Ala  
 100 105 110  
 Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly  
 115 120 125  
 Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala  
 130 135 140  
 Lys Val Gln Trp Lys Val Asp Asn  
 145 150

<210> 97  
 <211> 559  
 <212> DNA  
 <213> Homosapien

<400> 97  
 cagggtccagc tggtagcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggctc 60  
 tcttgcaagg tttccggata caccctcact gaattatcca tgactgggt ggcacaggct 120  
 cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtga aacaatctac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240



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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacagatcgc 300
gagttttgga gtggttattt ctaccactgg ggccagggaa ccctggtcac cgtctcctca 360
gcctccacca agggcccacg ggtcttcccc ctggcgccct gctccaggag cacctccgag 420
agcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacgggtgctg 480
tggaactcag gcgctctgac cagcggcggtg cacaccttcc cagctgtcct acagtcctca 540
ggactctact ccctcagca                                     559

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<210> 98  
 <211> 186  
 <212> PRT  
 <213> Homosapien

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<400> 98
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1          5          10          15
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
 20          25          30
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35          40          45
Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
 50          55          60
Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
 65          70          75          80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85          90          95
Ala Thr Asp Arg Glu Phe Trp Ser Gly Tyr Phe Tyr His Trp Gly Gln
100          105          110
Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val
115          120          125
Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala
130          135          140
Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145          150          155          160
Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
165          170          175
Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
180          185

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<210> 99  
 <211> 491  
 <212> DNA  
 <213> Homosapien

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<400> 99
gacatcgtga tgaccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60
atcaactgca agtccagcca gagtgtttta tacagctcca acaatgagaa cttcttagct 120
tggtaccagc agaaaccagg acagcctcct aaactgctca tttactgggc atctaccgg 180
gaatccgggg tcccagaccg cttcagtggc agcgggtctg ggacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttataatagt 300
ccgtggacgt tcggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360
gtcttcatct tccgcccacg tgatgagcag ttgaaatctg gaactgcctc tggtgtgtgc 420
ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgcctcc 480
ccaatcgggt a                                     491

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<210> 100  
 <211> 163  
 <212> PRT  
 <213> Homosapien

<400> 100  
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
 20 25 30  
 Ser Asn Asn Glu Asn Phe Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
 50 55 60  
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 65 70 75 80  
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
 85 90 95  
 Tyr Tyr Asn Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 100 105 110  
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 115 120 125  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 130 135 140  
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Ser  
 145 150 155 160  
 Pro Ile Gly

<210> 101  
 <211> 543  
 <212> DNA  
 <213> Homosapien

<400> 101  
 cagggtccagc tgggtacagtc tgggggctgag gtgaagaagc ctgggggcctc agtgaaggctc 60  
 tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagt gatgggaggt tttgatcctg aagatgggtga aacaatctac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacggacgat 300  
 ttttgagtg gttattttga ctactggggc cagggaaccc tggtcaccgt ctccctcagcc 360  
 tccaccaagg gcccatcggt cttccccctg ggcacctgct ccaggagcac ctccgagagc 420  
 acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
 aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 540  
 ctt 543

<210> 102  
 <211> 181  
 <212> PRT  
 <213> Homosapien

<400> 102  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu  
                   20                                  25                                  30  
 Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
                   35                                  40                                  45  
 Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe  
                   50                                  55                                  60  
 Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr  
  65                                  70                                  75                                  80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
                                   85                                  90                                  95  
 Ala Thr Asp Asp Phe Trp Ser Gly Tyr Phe Asp Tyr Trp Gly Gln Gly  
                                  100                                 105                                 110  
 Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe  
                   115                                 120                                 125  
 Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu  
                   130                                 135                                 140  
 Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp  
  145                                 150                                 155                                 160  
 Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu  
                                  165                                 170                                 175  
 Gln Ser Ser Gly Leu  
                                  180

<210> 103  
 <211> 491  
 <212> DNA  
 <213> Homosapien

<400> 103  
 gacatcgtga tgaccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60  
 atcaactgca agtccagtc gagtgtttta tacagggtcta acaataagag ctacttagtt 120  
 tgggtaccagc agaaactagg acagtctcct aagctgctca tttactgggc atctaccggg 180  
 gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcagcagcc tgcaggctga agatgtggca gtttattatt gtcaacaata ttatagtact 300  
 ccgtggacgt tcggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgccctc 480  
 ccaatcgggt a 491

<210> 104  
 <211> 163  
 <212> PRT  
 <213> Homosapien

<400> 104  
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
  1                                  5                                  10                                  15  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Arg  
                   20                                  25                                  30  
 Ser Asn Asn Lys Ser Tyr Leu Val Trp Tyr Gln Gln Lys Leu Gly Gln  
                   35                                  40                                  45  
 Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
                   50                                  55                                  60  
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     | 70  |     | 75  |     | 80  |     |     |     |     |     |     |     |     |     |
| Ile | Ser | Ser | Leu | Gln | Ala | Glu | Asp | Val | Ala | Val | Tyr | Tyr | Cys | Gln | Gln |
|     |     | 85  |     | 90  |     | 95  |     |     |     |     |     |     |     |     |     |
| Tyr | Tyr | Ser | Thr | Pro | Trp | Thr | Phe | Gly | Gln | Gly | Thr | Lys | Val | Glu | Ile |
|     |     | 100 |     | 105 |     | 110 |     |     |     |     |     |     |     |     |     |
| Lys | Arg | Thr | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp |
|     |     | 115 |     | 120 |     | 125 |     |     |     |     |     |     |     |     |     |
| Glu | Gln | Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn |
|     |     | 130 |     | 135 |     | 140 |     |     |     |     |     |     |     |     |     |
| Phe | Tyr | Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn | Ala | Leu |
| 145 |     |     |     | 150 |     | 155 |     |     |     |     |     |     |     |     | 160 |
| Pro | Ile | Gly |     |     |     |     |     |     |     |     |     |     |     |     |     |

<210> 105  
 <211> 499  
 <212> DNA  
 <213> Homosapien

<400> 105  
 cagggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggctc 60  
 tcttgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtga aacaatctac 180  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacagacgat 300  
 ttttggagtg gttattttga ctactggggc caggggaacc tggtcaccgt ctccctcagcc 360  
 tccaccaagg gcccatcggt cttccccctg gcgccttget ccaggagcac ctccgagagc 420  
 acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
 aactcaggcg ctctgacca 499

<210> 106  
 <211> 166  
 <212> PRT  
 <213> Homosapien

|   |
|---|
| <400> 106   |
| Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala |
| 1 5 10 15   |
| Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu |
| 20 25 30  |
| Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met |
| 35 40 45  |
| Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe |
| 50 55 60  |
| Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr |
| 65 70 75 80   |
| Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys |
| 85 90 95  |
| Ala Thr Asp Asp Phe Trp Ser Gly Tyr Phe Asp Tyr Trp Gly Gln Gly |
| 100 105 110   |
| Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe |
| 115 120 125   |
| Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu |
| 130 135 140   |

Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp  
 145 150 155 160  
 Asn Ser Gly Ala Leu Thr  
 165

<210> 107  
 <211> 448  
 <212> DNA  
 <213> Homosapien

<400> 107  
 gacatcgtga tgacccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60  
 atcaactgca agtccagcca gagtgtttta tacagctcca acaataagaa ctacttagtt 120  
 tgggtaccagc agaaaccagg acagcctcct aagctgctca ttactgggc atctaccgg 180  
 gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttatagtcct 300  
 acgtggacgt tcggccaagg gaccaagggtg gaaatcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagagg 448

<210> 108  
 <211> 149  
 <212> PRT  
 <213> Homosapien

<400> 108  
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
 20 25 30  
 Ser Asn Asn Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
 50 55 60  
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 65 70 75 80  
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
 85 90 95  
 Tyr Tyr Ser Pro Thr Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 100 105 110  
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 115 120 125  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 130 135 140  
 Phe Tyr Pro Arg Glu  
 145

<210> 109  
 <211> 540  
 <212> DNA  
 <213> Homosapien

<400> 109

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caggtccagc tggtagagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggct 60
tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120
cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aagatgggtg aacaatctac 180
gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacggacgat 300
ttttggagtg gttattttga ctactggggc caggggaacc tggtcaccgt ctcctcagcc 360
tccaccaagg gcccatcggg cttccccctg gcgccctgct ccaggagcac ctccgagagc 420
acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480
aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 540

```

<210> 110  
 <211> 180  
 <212> PRT  
 <213> Homosapien

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<400> 110
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1          5          10          15
Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu
20         25         30
Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35         40         45
Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe
50         55         60
Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr
65         70         75         80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85         90         95
Ala Thr Asp Asp Phe Trp Ser Gly Tyr Phe Asp Tyr Trp Gly Gln Gly
100        105        110
Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe
115        120        125
Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu
130        135        140
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp
145        150        155        160
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu
165        170        175
Gln Ser Ser Gly
180

```

<210> 111  
 <211> 478  
 <212> DNA  
 <213> Homosapien

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<400> 111
gacatcgtga tgaccagtc tccagactcc ctggctgtgt ctctgggcca gagggccacc 60
atcaactgca agtccagcca gagtgtttta tacagctcca acaataagaa ctacttagct 120
tggtaccagc agaaaccagg acagcctcct aagctgctca ttactggac atctaccgg 180
gaatccgggg tccttgaccg attcagtggc agcgggtctg tgacagattt cactctcacc 240
atcagcagcc tgcaggctga agatgtggca gtttattact gtcagcaata ttatagttct 300
ccgtggacgt tcggccaagg gaccaaggtg gaaatcaaac gaactgtggc tgcaccatct 360

```

gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaagggtgga taacgcct 478

<210> 112  
<211> 159  
<212> PRT  
<213> Homosapien

<400> 112  
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
1 5 10 15  
Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
20 25 30  
Ser Asn Asn Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45  
Pro Pro Lys Leu Leu Ile Tyr Trp Thr Ser Thr Arg Glu Ser Gly Val  
50 55 60  
Pro Asp Arg Phe Ser Gly Ser Gly Ser Val Thr Asp Phe Thr Leu Thr  
65 70 75 80  
Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
85 90 95  
Tyr Tyr Ser Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
100 105 110  
Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
115 120 125  
Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
130 135 140  
Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala  
145 150 155

<210> 113  
<211> 542  
<212> DNA  
<213> Homosapien

<400> 113  
cagggtccagc tggtacagtc tggggctgag gtgaagaagc ctgggggcctc agtgaagggtc 60  
tcttgcaagg tttccggata caccctcagt gaattatcca tgcactgggt gcgacagggt 120  
cctggaaaag ggcttgagt gatgggaggt tttgatcctg aagatgggtga aacaatctac 180  
gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 240  
atggagctga gcagcctgag atctgaggac acggccgtgt tttactgtgc aacaaagagg 300  
gaatatagt gctactttga ctactggggc caggggaaccc tggtcaccgt ctctcagcc 360  
tccaccaagg gcccatcggt cttccccctg ggcgccctgct ccaggagcac ctccgagagc 420  
acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
aactcaggcg ctctgaccag cggcgtgcac accttcccag ctgtcctaca gtcctcagga 540  
ct 542

<210> 114  
<211> 180  
<212> PRT  
<213> Homosapien

<400> 114  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala

|   |     |     |     |
|---|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Ser Glu Leu |     |     |     |
| 20  | 25  | 30  |     |
| Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met |     |     |     |
| 35  | 40  | 45  |     |
| Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr Ala Gln Lys Phe |     |     |     |
| 50  | 55  | 60  |     |
| Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr |     |     |     |
| 65  | 70  | 75  | 80  |
| Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Phe Tyr Cys |     |     |     |
| 85  | 90  | 95  |     |
| Ala Thr Lys Arg Glu Tyr Ser Gly Tyr Phe Asp Tyr Trp Gly Gln Gly |     |     |     |
| 100   | 105 | 110 |     |
| Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe |     |     |     |
| 115   | 120 | 125 |     |
| Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu |     |     |     |
| 130   | 135 | 140 |     |
| Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp |     |     |     |
| 145   | 150 | 155 | 160 |
| Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu |     |     |     |
| 165   | 170 | 175 |     |
| Gln Ser Ser Gly   |     |     |     |
| 180   |     |     |     |

<210> 115  
 <211> 477  
 <212> DNA  
 <213> Homosapien

<400> 115  
 gacatcgtga tgaccagtc tccagactcc ctggtgtgtgt ctctgggcga gagggccacc 60  
 atcaactgca agtccagcca gagtgtttta tacagctcca acagtaagaa ctacttagct 120  
 tggttccagc agaaaccagg acagcctcct aagctgctca tttactgggc atctaccgg 180  
 gaatccgggg tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc 240  
 atcagccgcc tgcaggctga agatgtggca gtttattcct gtcagcaata ttttattact 300  
 cagtggacgt tcggccaagg gaccaagggtg gaactcaaac gaactgtggc tgcaccatct 360  
 gtcttcatct tccgcctc tgatgagcag ttgaaatctg gaactgcctc tgttgtgtgc 420  
 ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgcc 477

<210> 116  
 <211> 159  
 <212> PRT  
 <213> Homosapien

<400> 116  
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser  
 20 25 30  
 Ser Asn Ser Lys Asn Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Gln  
 35 40 45  
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
 50 55 60  
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr



|                 |                         |                     |             |    |  |    |
|-----------------|-------------------------|---------------------|-------------|----|--|----|
| 65              |                         | 70                  |             | 75 |  | 80 |
| Ile Ser Arg Leu | Gln Ala Glu Asp Val     | Ala Val Tyr Ser Cys | Gln Gln     |    |  |    |
|                 | 85                      | 90                  | 95          |    |  |    |
| Tyr Phe Ile Thr | Pro Trp Thr Phe Gly     | Gln Gly Thr Lys Val | Glu Leu     |    |  |    |
|                 | 100                     | 105                 | 110         |    |  |    |
| Lys Arg Thr Val | Ala Ala Pro Ser Val     | Phe Ile Phe Pro     | Pro Ser Asp |    |  |    |
|                 | 115                     | 120                 | 125         |    |  |    |
| Glu Gln Leu Lys | Ser Gly Thr Ala Ser Val | Val Cys Leu Leu     | Asn Asn     |    |  |    |
|                 | 130                     | 135                 | 140         |    |  |    |
| Phe Tyr Pro Arg | Glu Ala Lys Val Gln Trp | Lys Val Asp Asn     | Ala         |    |  |    |
| 145             | 150                     | 155                 |             |    |  |    |

<210> 117  
 <211> 459  
 <212> DNA  
 <213> Homosapien

<400> 117  
 cagggtgcagc ctgagcagtc ggggtccagga ctgggtgaagc cctcgcagac cctctcactc 60  
 acctgtgccca tctccgggga cagtgtctct agcaacagtg ctgcttggaa ctggatcagg 120  
 cagtcacctt cgagaggcct tgagtggctg ggaaggacat actacaggtc caagtgggtat 180  
 agtgatcatg cagtatctgt gagaagtcga ataaccatct acccagacac atccaagaac 240  
 cagttctccc tgcagctgaa ctctgtgact cccgaggaca cggctgtgta ttactgtgca 300  
 agagatcgga ttagtgggac ctatgtcggt atggacgtct ggggccaaagg gaccacgggc 360  
 accgtctcct cagcctccac caagggccca tcggtcttcc ccctggcgcc cctgctccag 420  
 gagcacctcc gagagcacag cggccctggg ctgcctggc 459

<210> 118  
 <211> 153  
 <212> PRT  
 <213> Homosapien

|   |  |
|---|--|
| <400> 118   |  |
| Gln Val Gln Pro Glu Gln Ser Gly Pro Gly Leu Val Lys Pro Ser Gln |  |
| 1 5 10 15   |  |
| Thr Leu Ser Leu Thr Cys Ala Ile Ser Gly Asp Ser Val Ser Ser Asn |  |
| 20 25 30  |  |
| Ser Ala Ala Trp Asn Trp Ile Arg Gln Ser Pro Ser Arg Gly Leu Glu |  |
| 35 40 45  |  |
| Trp Leu Gly Arg Thr Tyr Tyr Arg Ser Lys Trp Tyr Ser Asp His Ala |  |
| 50 55 60  |  |
| Val Ser Val Arg Ser Arg Ile Thr Ile Tyr Pro Asp Thr Ser Lys Asn |  |
| 65 70 75 80   |  |
| Gln Phe Ser Leu Gln Leu Asn Ser Val Thr Pro Glu Asp Thr Ala Val |  |
| 85 90 95  |  |
| Tyr Tyr Cys Ala Arg Asp Arg Ile Ser Gly Thr Tyr Val Gly Met Asp |  |
| 100 105 110   |  |
| Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys |  |
| 115 120 125   |  |
| Gly Pro Ser Val Phe Pro Leu Ala Pro Leu Leu Gln Glu His Leu Arg |  |
| 130 135 140   |  |
| Glu His Ser Gly Pro Gly Leu Pro Gly                             |  |
| 145 150   |  |

<210> 119  
 <211> 526  
 <212> DNA  
 <213> Homosapien

<400> 119  
 ccagctcagc tcctggggct gctaattgctc tgggtccctg gatccaatga ggatattgtg 60  
 atgacccaga ctccactctc cctgcccgtc acccctggag agccggcctc catctcctgc 120  
 aggtctagtc agagcctctt ggatagtgat gatggaaaca cctatttggg ctggtacctg 180  
 cagaagccag ggcagtctcc acagctcctg atctatacgc tttcctttcg ggcctctgga 240  
 gtcccagaca ggttcagtgg cagtgggtca ggcactgatt tcacactgac aatcagcagg 300  
 gtggaggctg aggatgttgg agttttattac tgcattgcaac gtatagagtt tcctctcact 360  
 ttccggcggag ggaccaaggt ggagatcaaa cgaactgtgg ctgcaccatc tgtcttcac 420  
 ttcccgccat ctgatgagca gttgaaatct ggaactgcct ctgttgtgtg cctgctgaat 480  
 aacttctatc ccagagagggc caaagtacag tggaagggtg ataacg 526

<210> 120  
 <211> 175  
 <212> PRT  
 <213> Homosapien

<400> 120  
 Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro Gly Ser Asn  
 1 5 10 15  
 Glu Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Thr Pro  
 20 25 30  
 Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Asp  
 35 40 45  
 Ser Asp Asp Gly Asn Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly  
 50 55 60  
 Gln Ser Pro Gln Leu Leu Ile Tyr Thr Leu Ser Phe Arg Ala Ser Gly  
 65 70 75 80  
 Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu  
 85 90 95  
 Thr Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met  
 100 105 110  
 Gln Arg Ile Glu Phe Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu  
 115 120 125  
 Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser  
 130 135 140  
 Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn  
 145 150 155 160  
 Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn  
 165 170 175

<210> 121  
 <211> 499  
 <212> DNA  
 <213> Homosapien

<400> 121  
 cagggtccagg tggtagagtc tggggctgag gtgaagaacc ctggggcctc agtgaaggct 60  
 tcctgcaagg tttccggatc caccctcact gaattatcca tgcaactgggt gcgacaggct 120

cctggaaaag ggcttgagt gatgggaggt tttgatcctg aagatgggtga aacaatctac 180  
gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagtctac 240  
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aaccaacgat 300  
ttttggagtg gttattttga ctactggggc caggggaaccc tggtcaccgt ctctcagacc 360  
tccaccaagg gcccatcggt cttccccctg gcgccttgc ccaggagcac ctccgagagc 420  
acagcggccc tgggctgcct ggtcaaggac tacttccccg aaccggtgac ggtgtcgtgg 480  
aactcaggcg ctctgacca 499

<210> 122

<211> 166

<212> PRT

<213> Homosapien

<400> 122

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Val | Val | Gln | Ser | Gly | Ala | Glu | Val | Lys | Asn | Pro | Gly | Ala |
| 1   |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Ser | Val | Lys | Val | Ser | Cys | Lys | Val | Ser | Gly | Ser | Thr | Leu | Thr | Glu | Leu |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Met | His | Trp | Val | Arg | Gln | Ala | Pro | Gly | Lys | Gly | Leu | Glu | Trp | Met |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Gly | Gly | Phe | Asp | Pro | Glu | Asp | Gly | Glu | Thr | Ile | Tyr | Ala | Gln | Lys | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Gln | Gly | Arg | Val | Thr | Met | Thr | Glu | Asp | Thr | Ser | Thr | Asp | Thr | Val | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Tyr | Cys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ala | Thr | Asn | Asp | Phe | Trp | Ser | Gly | Tyr | Phe | Asp | Tyr | Trp | Gly | Gln | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     |     | 110 |     |
| Thr | Leu | Val | Thr | Val | Ser | Ser | Ala | Ser | Thr | Lys | Gly | Pro | Ser | Val | Phe |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Pro | Leu | Ala | Pro | Cys | Ser | Arg | Ser | Thr | Ser | Glu | Ser | Thr | Ala | Ala | Leu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gly | Cys | Leu | Val | Lys | Asp | Tyr | Phe | Pro | Glu | Pro | Val | Thr | Val | Ser | Trp |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Asn | Ser | Gly | Ala | Leu | Thr |     |     |     |     |     |     |     |     |     |     |
|     |     |     |     | 165 |     |     |     |     |     |     |     |     |     |     |     |

<210> 123

<211> 536

<212> DNA

<213> Homosapien

<400> 123

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| caggtcttca | tttctctgtt | gctctggatc | tctgatgtct | atggggacat | cgtgatgacc | 60  |
| cagtctccag | actccctggc | tgtgtctctg | ggcgagaggg | ccaccatcac | ctgcaagtcc | 120 |
| agccagactg | ttttatacag | ctccaacaat | aagaactact | tagtttggtg | tcagcagaaa | 180 |
| tcaggacagc | ctcctaagct | gtccattcac | tgggcatcta | tccgggaatc | cggggtcctt | 240 |
| gaccgattca | gtggcagcgg | gtctgggaca | gatttcacgc | tcaccatcag | cagcctgcag | 300 |
| gctgaagatg | tggcagttta | ttactgtcag | caatattata | gtagtccgtg | gacgttcggc | 360 |
| caagggacca | aggtggaaat | caaacgaact | gtggctgcac | catctgtctt | catcttcccc | 420 |
| ccatctgatg | agcagttgaa | atctggaact | gcctctgttg | tgtgcctgct | gaataacttc | 480 |
| tatcccagag | aggccaaagt | acagtggaag | gtggataacg | cccttccaat | cgggta     | 536 |

<210> 124



Ser Ala Ala Trp Asn Trp Ile Arg Gln Ser Pro Ser Arg Gly Leu Glu  
           35                          40                          45  
 Trp Leu Gly Arg Thr Tyr Tyr Arg Ser Lys Trp Tyr Ser Asp His Ala  
           50                          55                          60  
 Val Ser Val Arg Ser Arg Ile Thr Ile Tyr Pro Asp Thr Ser Lys Asn  
   65                          70                          75                          80  
 Gln Phe Ser Leu Gln Leu Asn Ser Val Thr Pro Glu Asp Thr Ala Val  
                           85                          90                          95  
 Tyr Tyr Cys Ala Arg Asp Arg Ile Ser Gly Thr Tyr Val Gly Met Asp  
                   100                          105                          110  
 Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys  
           115                          120                          125  
 Gly Pro Ile Gly Leu Pro Pro Gly Pro Leu  
           130                          135

<210> 127  
 <211> 514  
 <212> DNA  
 <213> Homosapien

<400> 127  
 gtcttcattt ctctgttgct ctggatctct ggtgcctacg gggacatcgt gatgacccag 60  
 tctccagact ccctggctgt gtctctgggc gagagggcca ccatcaactg caagtccagc 120  
 cagagtgttt tatacagttc caacaataag aactacatag tttggtacca gcagaaacca 180  
 gggcagcctc ctaagttgct catttactgg acatctaccg gggaatccgg ggtccctgac 240  
 cgattcagtg gcagcgggtc tggaacagat ttcactctca ctatcagtag cctgcaggct 300  
 gaagatgtgg cagtttatta ctgtcagcaa tattttagtt ctccgtggac gttcggccaa 360  
 gggaccaaag tggacatcaa acgaactgtg gctgcaccat ctgtcttcat cttcccgcc 420  
 tctgatgagc agttgaaatc tggaactgcc tctgttggtg gcctgctgaa taacttctat 480  
 cccagagagg ccaaagtaca gtggaaggtg gata 514

<210> 128  
 <211> 171  
 <212> PRT  
 <213> Homosapien

<400> 128  
 Val Phe Ile Ser Leu Leu Leu Trp Ile Ser Gly Ala Tyr Gly Asp Ile  
   1                          5                          10                          15  
 Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly Glu Arg  
           20                          25                          30  
 Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Val Leu Tyr Ser Ser Asn  
           35                          40                          45  
 Asn Lys Asn Tyr Ile Val Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro  
   50                          55                          60  
 Lys Leu Leu Ile Tyr Trp Thr Ser Thr Arg Glu Ser Gly Val Pro Asp  
   65                          70                          75                          80  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser  
                           85                          90                          95  
 Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln Tyr Phe  
                   100                          105                          110  
 Ser Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Asp Ile Lys Arg  
           115                          120                          125  
 Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln

|                     |                         |                         |     |     |
|---------------------|-------------------------|-------------------------|-----|-----|
| 130                 |                         | 135                     |     | 140 |
| Leu Lys Ser Gly Thr | Ala Ser Val Val Cys     | Leu Leu Asn Asn Phe Tyr |     |     |
| 145                 | 150                     | 155                     | 160 |     |
| Pro Arg Glu Ala Lys | Val Gln Trp Lys Val Asp |                         |     |     |
|                     | 165                     | 170                     |     |     |

<210> 129  
 <211> 444  
 <212> DNA  
 <213> Homosapien

<400> 129  
 cagtcggggtc caggactggg gaagccctcg cagaccctct cactcacctg tgccatctcc 60  
 ggggacagtg tctctagcaa cagtgtctgt tggaactgga tcaggcagtc cccttcgaga 120  
 ggccttgagt ggctgggaag gacatactac aggtccaagt ggtatagtga tcatgcagta 180  
 tctgtgagaa gtcgaataac catctaccca gacacatcca agaaccagtt ctccctgcag 240  
 ctgaactctg tgactcccga ggacacgggt gtgtattact gtgcaagaga tcggattagt 300  
 gggacctatg tcggtatgga cgtctggggc caagggacca cggtcaccgt ctctcagcc 360  
 tccaccaagg gcccatcggt ctccccctg gcgcccctgc tccaggagca cctccgagag 420  
 cacagcggcc ctgggctgcc tggc 444

<210> 130  
 <211> 148  
 <212> PRT  
 <213> Homosapien

<400> 130  
 Gln Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Thr Leu Ser Leu Thr  
 1 5 10 15  
 Cys Ala Ile Ser Gly Asp Ser Val Ser Ser Asn Ser Ala Ala Trp Asn  
 20 25 30  
 Trp Ile Arg Gln Ser Pro Ser Arg Gly Leu Glu Trp Leu Gly Arg Thr  
 35 40 45  
 Tyr Tyr Arg Ser Lys Trp Tyr Ser Asp His Ala Val Ser Val Arg Ser  
 50 55 60  
 Arg Ile Thr Ile Tyr Pro Asp Thr Ser Lys Asn Gln Phe Ser Leu Gln  
 65 70 75 80  
 Leu Asn Ser Val Thr Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg  
 85 90 95  
 Asp Arg Ile Ser Gly Thr Tyr Val Gly Met Asp Val Trp Gly Gln Gly  
 100 105 110  
 Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe  
 115 120 125  
 Pro Leu Ala Pro Leu Leu Gln Glu His Leu Arg Glu His Ser Gly Pro  
 130 135 140  
 Gly Leu Pro Gly  
 145

<210> 131  
 <211> 505  
 <212> DNA  
 <213> Homosapien

<400> 131

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gggctgctaa tgctctggat acctggatcc agtgcagata ttgggatgac ccagactcca 60
ctctctctgt ccgtcacccc tggacagccg gcctccatct cctgtaagtc tagtcagagc 120
ctcctgtata gtgatggaaa gacctatctt tatttggtacc tgcagaagcc aggccagcct 180
ccacaacacc tgatctatga agtttccaac cggttctctg gagtgccaga taggttcagt 240
ggcagcgggt ctgggacaga ttccacactg aaaatcagcc ggggtggaggc tgatgatgtt 300
ggggtttatt actgcatgca aactatacac cttccgctca ctttcggcgg agggaccaag 360
gtggagatcc aacgaactgt ggctgcacca tctgtcttca tcttcccgcc atctgatgag 420
cagttgaaat ctggaactgc ctctgttggtg tgcctgctga ataacttcta tcccagagag 480
gccaaagtac agtgaaggt ggata 505
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<210> 132

<211> 168

<212> PRT

<213> Homosapien

<400> 132

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Gly Leu Leu Met Leu Trp Ile Pro Gly Ser Ser Ala Asp Ile Gly Met
1          5          10          15
Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly Gln Pro Ala Ser
20          25          30
Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser Asp Gly Lys Thr
35          40          45
Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Pro Pro Gln His Leu
50          55          60
Ile Tyr Glu Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser
65          70          75          80
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu
85          90          95
Ala Asp Asp Val Gly Val Tyr Tyr Cys Met Gln Thr Ile His Leu Pro
100         105         110
Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Gln Arg Thr Val Ala
115         120         125
Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser
130         135         140
Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu
145         150         155         160
Ala Lys Val Gln Trp Lys Val Asp
165
```

<210> 133

<211> 447

<212> DNA

<213> Homosapien

<400> 133

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gagcagtcgg gtccaggact ggtgaagccc tcgcagaccc tctcactcac ctgtgccatc 60
tccggggaca gtgtctctag caacagtgtc gcttggaaact ggatcaggca gtccccttcg 120
agaggccttg agtggtctgg aaggacatac tacagggtcca agtggtatag tgatcatgca 180
gtatctgtga gaagtcgaat aaccatctac ccagacacat ccaagaacca gttctccctg 240
cagctgaact ctgtgactcc cgaggacacg gctgtgtatt actgtgcaag agatcggatt 300
agtgggacct atgtcgggtat ggacgtctgg ggccaaggga ccacgggtcac cgtctcctca 360
gcctccacca agggcccatc ggtcttcccc ctggcgcccc tgctccagga gcacctccga 420
gagcacagcg gccctgggct gcctggc 447
```

<210> 134  
 <211> 149  
 <212> PRT  
 <213> Homosapien

<400> 134  
 Glu Gln Ser Gly Pro Gly Leu Val Lys Pro Ser Gln Thr Leu Ser Leu  
 1 5 10 15  
 Thr Cys Ala Ile Ser Gly Asp Ser Val Ser Ser Asn Ser Ala Ala Trp  
 20 25 30  
 Asn Trp Ile Arg Gln Ser Pro Ser Arg Gly Leu Glu Trp Leu Gly Arg  
 35 40 45  
 Thr Tyr Tyr Arg Ser Lys Trp Tyr Ser Asp His Ala Val Ser Val Arg  
 50 55 60  
 Ser Arg Ile Thr Ile Tyr Pro Asp Thr Ser Lys Asn Gln Phe Ser Leu  
 65 70 75 80  
 Gln Leu Asn Ser Val Thr Pro Glu Asp Thr Ala Val Tyr Tyr Cys Ala  
 85 90 95  
 Arg Asp Arg Ile Ser Gly Thr Tyr Val Gly Met Asp Val Trp Gly Gln  
 100 105 110  
 Gly Thr Thr Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125  
 Phe Pro Leu Ala Pro Leu Leu Gln Glu His Leu Arg Glu His Ser Gly  
 130 135 140  
 Pro Gly Leu Pro Gly  
 145

<210> 135  
 <211> 520  
 <212> DNA  
 <213> Homosapien

<400> 135  
 cagggtcttca tttctctgtt gctctggatc tctgggtgcct acgggggacat cgtgatgacc 60  
 cagtctccag actccctggc tgtgtctctg ggcgagaggg ccgccatcaa ctgcaagtcc 120  
 agccagactg ttttatacag ctccaacaat aagaactact tggtttggtgta ccagcagaaa 180  
 ccaggacagc ctcccaagct gctcatttac tgggcatcta cccgggaatc cgggggtccct 240  
 gaccgattca gtggcagcgg gtctgggaca gatttcactc tcaccatcag cagcctgcag 300  
 gctgaagatg tggcagttta ttactgtcaa caatattata aaagtccgtg gacgttcggc 360  
 caagggacca aggtggaaat caaacgaact gtggctgcac catctgtctt catcttcccg 420  
 ccactctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc 480  
 tatcccagag aggccaaagt acagtggaag gtggataacg 520

<210> 136  
 <211> 173  
 <212> PRT  
 <213> Homosapien

<400> 136  
 Gln Val Phe Ile Ser Leu Leu Leu Trp Ile Ser Gly Ala Tyr Gly Asp  
 1 5 10 15  
 Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly Glu  
 20 25 30



|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Arg | Ala | Ala | Ile | Asn | Cys | Lys | Ser | Ser | Gln | Thr | Val | Leu | Tyr | Ser | Ser |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Asn | Asn | Lys | Asn | Tyr | Leu | Val | Trp | Tyr | Gln | Gln | Lys | Pro | Gly | Gln | Pro |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Pro | Lys | Leu | Leu | Ile | Tyr | Trp | Ala | Ser | Thr | Arg | Glu | Ser | Gly | Val | Pro |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Asp | Arg | Phe | Ser | Gly | Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Thr | Ile |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Ser | Ser | Leu | Gln | Ala | Glu | Asp | Val | Ala | Val | Tyr | Tyr | Cys | Gln | Gln | Tyr |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Tyr | Lys | Ser | Pro | Trp | Thr | Phe | Gly | Gln | Gly | Thr | Lys | Val | Glu | Ile | Lys |
|     | 115 |     |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Thr | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp | Glu |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Gln | Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn | Phe |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Tyr | Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn |     |     |     |
|     |     |     | 165 |     |     |     |     | 170 |     |     |     |     |     |     |     |

<210> 137  
 <211> 490  
 <212> DNA  
 <213> Homosapien

<400> 137  
 cagggtccagc tgggtacagtc tggggcctgag gtgaagaagc ctgggggcctc agtgaagggtc 60  
 tcctgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 120  
 cctggaaaag ggcttgagtg gatgggaggt tttgatcctg aaaatgggtga aacaatccac 180  
 gcacagaagt tccagggcag agtcatcatg accgaggaca catctacaga cacagcctac 240  
 atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc aacagatcag 300  
 ggtggatata gtggctactt tgactgctgg ggccagggaa ccctgggtcac cgtctcctca 360  
 gcttccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag 420  
 agcacagccg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg 480  
 tggaactcag 490

<210> 138  
 <211> 163  
 <212> PRT  
 <213> Homosapien

<400> 138  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
 1 5 10 15  
 Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr Leu Thr Glu Leu  
 20 25 30  
 Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Met  
 35 40 45  
 Gly Gly Phe Asp Pro Glu Asn Gly Glu Thr Ile His Ala Gln Lys Phe  
 50 55 60  
 Gln Gly Arg Val Ile Met Thr Glu Asp Thr Ser Thr Asp Thr Ala Tyr  
 65 70 75 80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Thr Asp Gln Gly Gly Tyr Ser Gly Tyr Phe Asp Cys Trp Gly Gln

|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
|   | 100 |     | 105 |     | 110 |
| Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val |     |     |     |     |     |
|   | 115 |     | 120 |     | 125 |
| Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala |     |     |     |     |     |
|   | 130 |     | 135 |     | 140 |
| Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser |     |     |     |     |     |
| 145   |     | 150 |     | 155 | 160 |
| Trp Asn Ser   |     |     |     |     |     |

<210> 139  
 <211> 540  
 <212> DNA  
 <213> Homosapien

<400> 139  
 agaccacaggt cttcatttct ctgttgetct ggatctctgg tgcctacggg gacatcgtga 60  
 tgaccacagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc atcaactgca 120  
 agtccagcca gaggatttta tacagctcca ataataagaa ttatttagtt tggtagcagc 180  
 agaaaccagg acagcctcct aagttgctca ttactgggc atctaccggg gaatccgggg 240  
 tccctgaccg attcagtggc agcgggtctg ggacagattt cactctcacc atcagcagcc 300  
 tgcaggctga agatgtggca gtttattact gtcagcaata ttatagtagt cctccgacgt 360  
 tcggccaagg gaccaagggt gaaatcaaac gaactgtggc tgcaccatct gtcttcatct 420  
 tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tggtgtgtgc ctgctgaata 480  
 acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgccctc caatcgggta 540

<210> 140  
 <211> 179  
 <212> PRT  
 <213> Homosapien

<400> 140  
 Thr Gln.Val Phe Ile Ser Leu Leu Leu Trp Ile Ser Gly Ala Tyr Gly  
 1 5 10 15  
 Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly  
 20 25 30  
 Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Ile Leu Tyr Ser  
 35 40 45  
 Ser Asn Asn Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln  
 50 55 60  
 Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
 65 70 75 80  
 Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 85 90 95  
 Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln  
 100 105 110  
 Tyr Tyr Ser Ser Pro Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 115 120 125  
 Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
 130 135 140  
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
 145 150 155 160  
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu

Gln Ser Gly
 165
170
175

<210> 141  
 <211> 518  
 <212> DNA  
 <213> Homosapien

<400> 141  
 accatggagt ggacctggag ggtcctcttc ttggtggcag cagctacagg caccacgcc 60  
 caggtccagc tggtagagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggct 120  
 tcttgcaagg tttccggata caccctcact gaattatcca tgcactgggt gcgacaggct 180  
 cctggaaaag ggcttgagt gatgggaggt tttgatcctg aagatgggtga aacaatctac 240  
 gcacagaagt tccagggcag agtcaccatg accgaggaca catctacaga cacagcctac 300  
 atggagctga gtagcctgag aactgaggac acggccgtgt attactgtac aacggacgat 360  
 ttttggagtg gttattttga ctactggggc caggggaacc tggtcaccgt ctctcagcc 420  
 tccaccaagg gcccatcggg ctccccctg gcgccttgct ccaggagcac ctccgagagc 480  
 acagcggcct gggctgcctg gtcaaggact acttcccc 518

<210> 142  
 <211> 172  
 <212> PRT  
 <213> Homosapien

<400> 142  
 Thr Met Glu Trp Thr Trp Arg Val Leu Phe Leu Val Ala Ala Ala Thr  
 1 5 10 15  
 Gly Thr His Ala Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys  
 20 25 30  
 Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Val Ser Gly Tyr Thr  
 35 40 45  
 Leu Thr Glu Leu Ser Met His Trp Val Arg Gln Ala Pro Gly Lys Gly  
 50 55 60  
 Leu Glu Trp Met Gly Gly Phe Asp Pro Glu Asp Gly Glu Thr Ile Tyr  
 65 70 75 80  
 Ala Gln Lys Phe Gln Gly Arg Val Thr Met Thr Glu Asp Thr Ser Thr  
 85 90 95  
 Asp Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Thr Glu Asp Thr Ala  
 100 105 110  
 Val Tyr Tyr Cys Thr Thr Asp Asp Phe Trp Ser Gly Tyr Phe Asp Tyr  
 115 120 125  
 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly  
 130 135 140  
 Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser  
 145 150 155 160  
 Thr Ala Ala Trp Ala Ala Trp Ser Arg Thr Thr Ser  
 165 170

<210> 143  
 <211> 519  
 <212> DNA  
 <213> Homosapien

<400> 143  
caggtcttca tttctctgtt gctctggatc tctgggtgcct acgggggacat cgtgatgacc 60  
cagtctccag actccctggc tgtgtctctg ggcgagaggg ccaccatcaa ctgcaagtcc 120  
agccagagtc ttttatacag ctccaaaaat aagaactatt tagtttggtgta ccagcagaaa 180  
ccaggacagc ctccaaagct gctcattaac tgggcatcta cccgggaatc cggggtcctt 240  
gaccgattca gtggcagcgg gtctgggaca gatttcactc tcaccatcag cagcctgcag 300  
gctgaagatg tggcagttta ttactgtcag caatattata gttctccgtg gacgttcggc 360  
caagggacca aggtggaaat caaacgaact gtggctgcac catctgtctt catcttcccg 420  
ccatctgatg agcagttgaa atctggaact gcctctgttg tgtgcctgct gaataacttc 480  
tatcccagag aggcaaagta cagtgggaagg tggatacgc 519

<210> 144  
<211> 173  
<212> PRT  
<213> Homosapien

<400> 144  
Gln Val Phe Ile Ser Leu Leu Leu Trp Ile Ser Gly Ala Tyr Gly Asp  
1 5 10 15  
Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly Glu  
20 25 30  
Arg Ala Thr Ile Asn Cys Lys Ser Gln Ser Leu Leu Tyr Ser Ser  
35 40 45  
Lys Asn Lys Asn Tyr Leu Val Trp Tyr Gln Gln Lys Pro Gly Gln Pro  
50 55 60  
Pro Lys Leu Leu Ile Asn Trp Ala Ser Thr Arg Glu Ser Gly Val Pro  
65 70 75 80  
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile  
85 90 95  
Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln Tyr  
100 105 110  
Tyr Ser Ser Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
115 120 125  
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu  
130 135 140  
Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe  
145 150 155 160  
Tyr Pro Arg Glu Ala Lys Tyr Ser Gly Arg Trp Ile Arg  
165 170

<210> 145  
<211> 436  
<212> DNA  
<213> Homosapien

<400> 145  
gagcagtcgg ggggagggcgt ggtccagcct gggaggtccc tgagactctc ctgtgcagcg 60  
tctggattca ccttcagtag ctatggcatg cactgggtcc gccaggctcc aggcaagggg 120  
ctggagtggg tggcagttat atgggtatgat ggaaataata aatactatgc agactccgtg 180  
aagggccgat tcaccatctc cagagacact tccaagaaca cgctgtatct gcaaataaac 240  
agcctgagag ccgaggacac ggctgtgtat tactgtgcga gagatagcag ctcgtactac 300  
tactacggta tggacgtctg gggccaaggg accacgggtc cgtctctctc agcctccacc 360  
aagggcccat cggctctccc cctggcgccc tgctccagga gcacctccga gagcacagcg 420

gccctgggct gcctgg

436

<210> 146  
<211> 145  
<212> PRT  
<213> Homosapien

<400> 146  
Glu Gln Ser Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu  
1 5 10 15  
Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Gly Met His Trp  
20 25 30  
Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Val Ile Trp  
35 40 45  
Tyr Asp Gly Asn Asn Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe  
50 55 60  
Thr Ile Ser Arg Asp Thr Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn  
65 70 75 80  
Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg Asp Ser  
85 90 95  
Ser Ser Tyr Tyr Tyr Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr  
100 105 110  
Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu  
115 120 125  
Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys  
130 135 140  
Leu  
145

<210> 147  
<211> 428  
<212> DNA  
<213> Homosapien

<400> 147  
gctccgctac ttctcaccct cctcgcctcac tgcacaggtt cttggggccaa ttttatgctg 60  
actcagcccc actctgtgtc ggagtctccg gggaagacgg taaccatctc ctgcacccgc 120  
agcagtggca gcattgccag caactatgtg cagtgggtcc agcagcgccc gggcagttcc 180  
cccaccactg taatctatga ggatgaccaa agaccctctg gggtcctga tcggttctgt 240  
ggctccatcg acagctcctc caactctgcc tccctcacca tctctggact gaggactgag 300  
gacgaggctg actactactg tcagtcttat gatagcagca atcatgtggt attcggcgga 360  
gggaccaagc tgaccgtcct aggtcagccc aaggctgccc cctcggtcac tctgttccc 420  
ccctcctc 428

<210> 148  
<211> 142  
<212> PRT  
<213> Homosapien

<400> 148  
Ala Pro Leu Leu Thr Leu Leu Ala His Cys Thr Gly Ser Trp Ala  
1 5 10 15  
Asn Phe Met Leu Thr Gln Pro His Ser Val Ser Glu Ser Pro Gly Lys  
20 25 30

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Val | Thr | Ile | Ser | Cys | Thr | Arg | Ser | Ser | Gly | Ser | Ile | Ala | Ser | Asn |
|     | 35  |     |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Tyr | Val | Gln | Trp | Phe | Gln | Gln | Arg | Pro | Gly | Ser | Ser | Pro | Thr | Thr | Val |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Ile | Tyr | Glu | Asp | Asp | Gln | Arg | Pro | Ser | Gly | Val | Pro | Asp | Arg | Phe | Cys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     | 80  |     |
| Gly | Ser | Ile | Asp | Ser | Ser | Ser | Asn | Ser | Ala | Ser | Leu | Thr | Ile | Ser | Gly |
|     |     |     | 85  |     |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Leu | Arg | Thr | Glu | Asp | Glu | Ala | Asp | Tyr | Tyr | Cys | Gln | Ser | Tyr | Asp | Ser |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Asn | His | Val | Val | Phe | Gly | Gly | Gly | Thr | Lys | Leu | Thr | Val | Leu | Gly |
|     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |     |
| Gln | Pro | Lys | Ala | Ala | Pro | Ser | Val | Thr | Leu | Phe | Pro | Pro | Ser |     |     |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |

<210> 149

<211> 76

<212> PRT

<213> Homosapien

<400> 149

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Pro | Asp | Ala | Ile | Asn | Ala | Pro | Val | Thr | Cys | Cys | Tyr | Asn | Phe | Thr |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asn | Arg | Lys | Ile | Ser | Val | Gln | Arg | Leu | Ala | Ser | Tyr | Arg | Arg | Ile | Thr |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ser | Ser | Lys | Cys | Pro | Lys | Glu | Ala | Val | Ile | Phe | Lys | Thr | Ile | Val | Ala |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Lys | Glu | Ile | Cys | Ala | Asp | Pro | Lys | Gln | Lys | Trp | Val | Gln | Asp | Ser | Met |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Asp | His | Leu | Asp | Lys | Gln | Thr | Gln | Thr | Pro | Lys | Thr |     |     |     |     |
| 65  |     |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     |     |